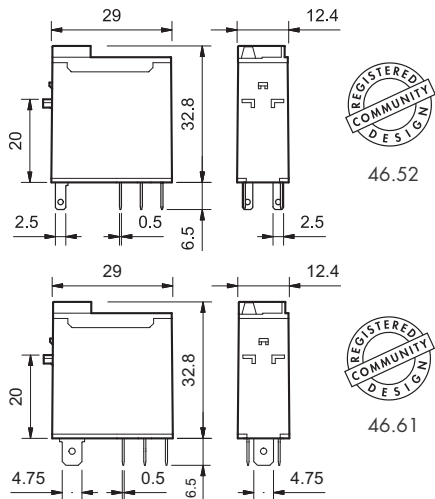


## Features

### 1 & 2 Pole relay range

**46.52 - 2 Pole 8 A**
**46.61 - 1 Pole 16 A**

- Socket mount or direct connection via Faston connectors
- AC coils & DC coils
- Available with: lockable test button, mechanical indicator & LED indicator
- 8 mm, 6 kV (1.2/50  $\mu$ s) isolation, coil-contacts
- Cadmium Free contacts
- European Patent



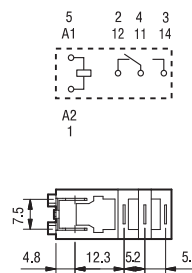
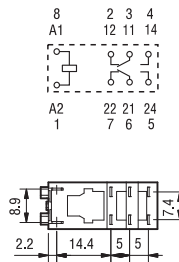
FOR UL RATINGS SEE:  
"General technical information" page V

**46.52**


- 2 Pole CO, 8 A
- Plug-in/Solder terminals

**46.61**


- 1 Pole CO, 16 A
- Plug-in/Faston 187



### Contact specification

Contact configuration	2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A 8/15	16/25 *
Rated voltage/Maximum switching voltage	V AC 250/440	250/440
Rated load AC1	VA 2,000	4,000
Rated load AC15 (230 V AC)	VA 350	750
Single phase motor rating (230 V AC)	kW 0.37	0.55
Breaking capacity DC1: 30/110/220 V	A 6/0.5/0.15	12/0.5/0.15
Minimum switching load	mW (V/mA) 300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi

### Coil specification

Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	12 - 24 - 48 - 110 - 120 - 230 - 240
	V DC	12 - 24 - 48 - 110 - 125
Rated power	VA/W	1.2/0.5
Operating range	AC	(0.8...1.1) $U_N$
	DC	(0.73...1.1) $U_N$
Holding voltage	AC/DC	0.8 $U_N$ / 0.4 $U_N$
Must drop-out voltage	AC/DC	0.2 $U_N$ / 0.1 $U_N$

### Technical data

Mechanical life AC/DC	cycles	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	10/3	15/5
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range	$^{\circ}$ C	-40 ... +70	-40 ... +70
Environmental protection		RT II	RT II

### Approvals (according to type)

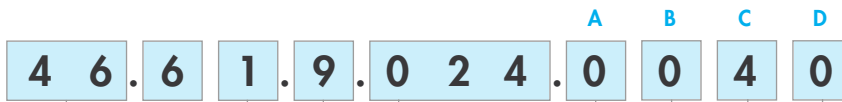


\* With the AgSnO<sub>2</sub> material the maximum peak current is 80 A - 5 ms on normally open contact.

Ordering information

Example: 46 series Miniature industrial relay, 1 CO (SPDT), 24 V DC coil, lockable test button and mechanical indicator.

A



- Series** —————
- Type** —————  
5 = Spade/blade solder terminal (2.5x0.5)mm  
6 = Spade/blade terminal Faston 187 (4.8x0.5)mm
- No. of poles** —————  
1 = 1 pole, 16 A  
2 = 2 poles, 8 A
- Coil version** —————  
9 = DC  
8 = AC (50/60 Hz)
- Coil voltage** —————  
See coil specifications

- A: Contact material**  
0 = AgNi  
4 = AgSnO<sub>2</sub> (46.61 only)  
5 = AgNi + Au
- B: Contact circuit**  
0 = CO (nPDT)

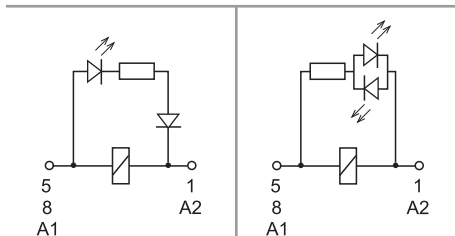
- D: Special versions**  
0 = Standard
- C: Options**  
2 = Mechanical indicator  
4 = Lockable test button + mechanical indicator  
54 = Lockable test button + LED (AC) + mechanical indicator  
74 = Lockable test button + double LED (DC non-polarized) + mechanical indicator

Selecting features and options: only combinations in the same row are possible. Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
46.52	AC - DC	<b>0</b> - 5	<b>0</b>	2 - <b>4</b>	<b>0</b>
	AC	0 - 5	0	54	/
	DC	0 - 5	0	74	/
46.61	AC - DC	<b>0</b> - 4 - 5	<b>0</b>	2 - <b>4</b>	<b>0</b>
	AC	0 - 4 - 5	0	54	/
	DC	0 - 4 - 5	0	74	/

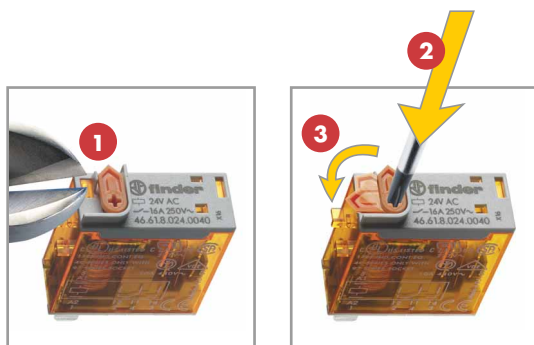
**Special versions for Rail Applications on request**

Descriptions: Options



**C: Option 54**  
LED (AC)

**C: Option 74**  
LED (DC, non-polarized)



**Lockable test button and mechanical flag indicator (0040, 0054, 0074)**

The dual-purpose Finder test button can be used in two ways:  
**Case 1)** The plastic pip (located directly below the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.  
**Case 2)** The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position. In both cases ensure that the test button actuation is swift and decisive.

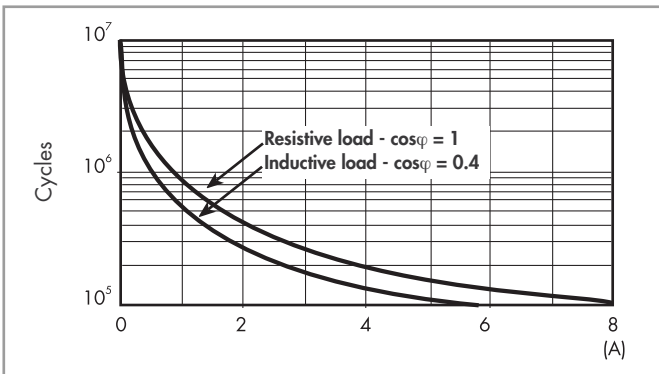


**Technical data**

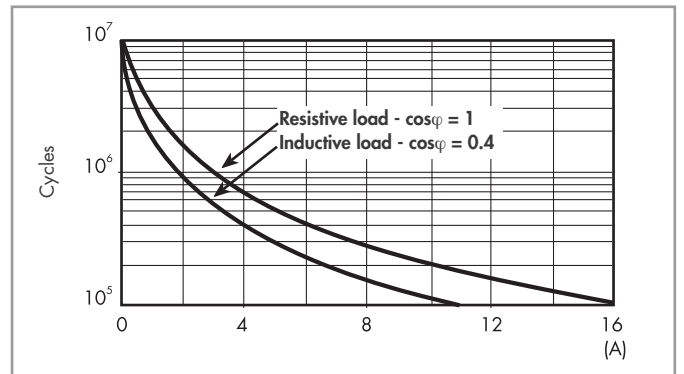
Insulation according to EN 61810-1		1 pole		2 pole	
Nominal voltage of supply system	V AC	230/400		230/400	
Rated insulation voltage	V AC	250	400	250	400
Pollution degree		3	2	3	2
<b>Insulation between coil and contact set</b>					
Type of insulation		Reinforced (8 mm)		Reinforced (8 mm)	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 $\mu$ s)	6		6	
Dielectric strength	V AC	4,000		4,000	
<b>Insulation between adjacent contacts</b>					
Type of insulation		—		Basic	
Overvoltage category		—		III	
Rated impulse voltage	kV (1.2/50 $\mu$ s)	—		4	
Dielectric strength	V AC	—		2,000	
<b>Insulation between open contacts</b>					
Type of disconnection		Micro-disconnection		Micro-disconnection	
Dielectric strength	V AC/kV (1.2/50 $\mu$ s)	1,000/1.5		1,000/1.5	
<b>Conducted disturbance immunity</b>					
Burst (5...50)ns, 5 kHz, on A1 - A2		EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 $\mu$ s) on A1 - A2 (differential mode)		EN 61000-4-5		level 3 (2 kV)	
<b>Other data</b>		<b>46.61</b>		<b>46.52</b>	
Bounce time: NO/NC	ms	2/6		1/4	
Vibration resistance (10...150)Hz: NO/NC	g	20/12		20/15	
Shock resistance	g	20		20	
Power lost to the environment	without contact current	W	0.6	W	0.6
	with rated current	W	1.6	W	2
Recommended distance between relays mounted on PCB	mm	$\geq 5$			

**Contact specification**

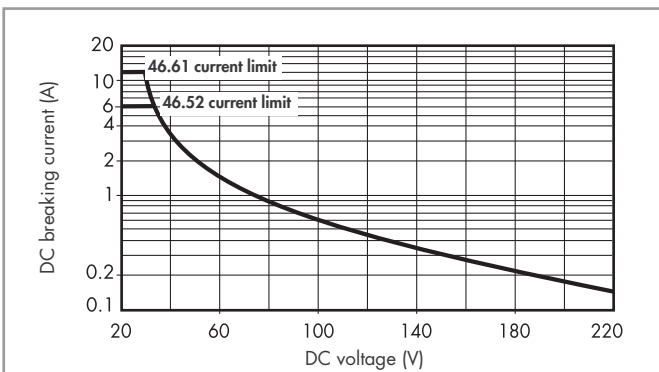
**F 46 - Electrical life (AC) v contact current**  
Type 46.52



**F 46 - Electrical life (AC) v contact current**  
Type 46.61



**H 46 - Maximum DC1 breaking capacity**



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.  
Note: the release time for the load will be increased.

Coil specifications

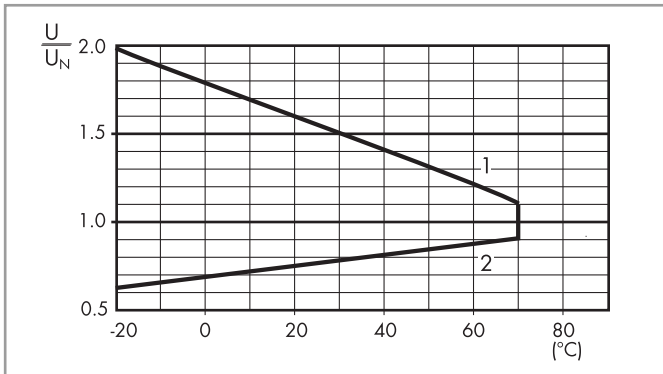
DC coil data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
12	9.012	8.8	13.2	300	40
24	9.024	17.5	26.4	1,200	20
48	9.048	35	52.8	4,800	10
110	9.110	80	121	23,500	4.7
125	9.125	91.2	138	32,000	3.9

AC coil data

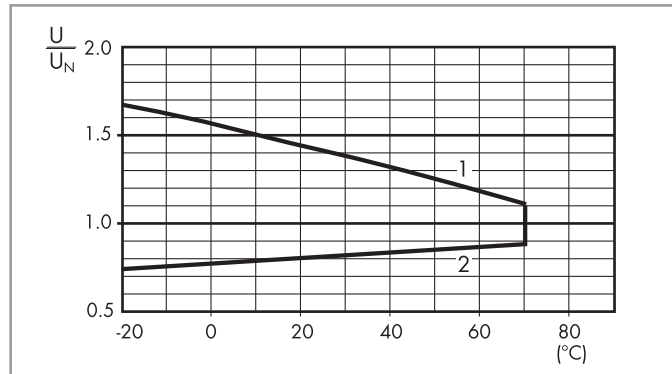
Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
12	8.012	9.6	13.2	80	90
24	8.024	19.2	26.4	320	45
48	8.048	38.4	52.8	1,350	21
110	8.110	88	121	6,900	9.4
120	8.120	96	132	9,000	8.4
230	8.230	184	253	28,000	5
240	8.240	192	264	31,500	4.1

R 46 - DC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

R 46 - AC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.



**Accessories**



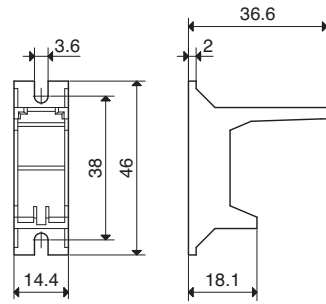
046.05

**Flange mount adaptor** for relays types 46.52 and 46.61

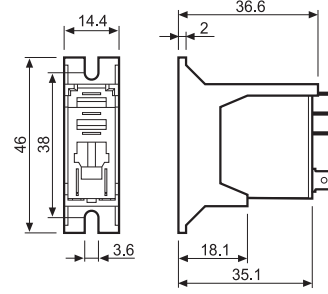
046.05



046.05 with relay



046.05



046.05 with relay



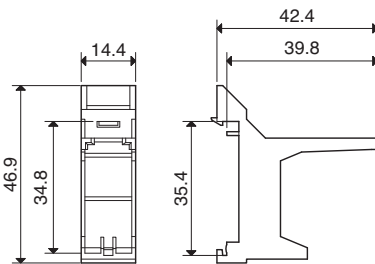
046.07

**35 mm rail adaptor** for relays types 46.52 and 46.61

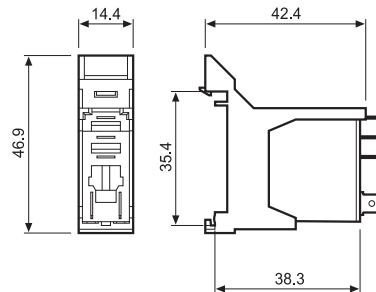
046.07



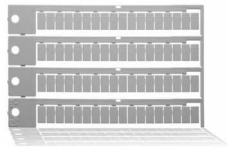
046.07 with relay



046.07



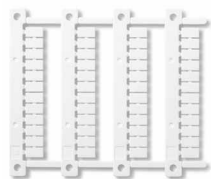
046.07 with relay



060.72

**Sheet of marker tags** for relays types 46.52 and 46.61 (72 tags), 6x12mm

060.72



060.48

**Sheet of marker tags (thermal transfer printers)** for relays types 46.52 and 46.61 (48 tags), 6 x 12 mm

060.48

# 97 Series - Sockets and accessories for 46 series relays

A



97.01

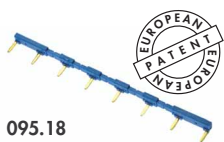
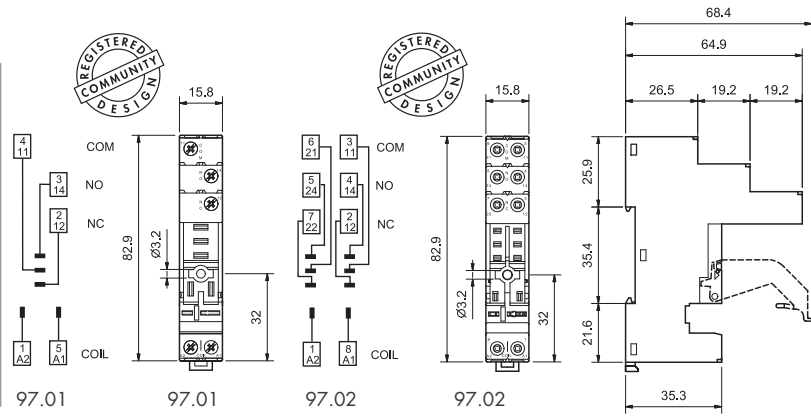
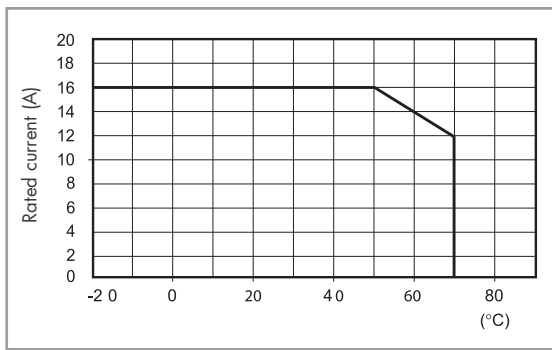
Approvals (according to type):



097.01

<b>Screw terminal socket panel or 35 mm rail (EN 60715) mount</b>	<b>97.01 (blue)</b>	<b>97.01.0 (black)</b>	<b>97.02 (blue)</b>	<b>97.02.0 (black)</b>
For relay type	46.61			46.52
<b>Accessories</b>				
Plastic retain and release clip (supplied with socket - packaging code SPA)			097.01	
Metal retaining clip			097.71	
Identification tag			095.00.4	
8-way jumper link	095.18 (blue)		095.18.0 (black)	
Modules (see table below)			99.02	
Timer modules (see table below)			86.30	
<b>Technical data</b>				
Rated current	16 A - 250 V AC		8 A - 250 V AC	
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts			
Protection category	IP 20			
Ambient temperature	°C -40...+70 (see diagram L97)			
⊕ Screw torque	Nm 0.8			
Wire strip length	mm 8			
Max. wire size for 97.01 and 97.02 sockets		solid wire	stranded wire	
	mm <sup>2</sup>	1x6 / 2x2.5	1x4 / 2x2.5	
	AWG	1x10 / 2x14	1x12 / 2x14	

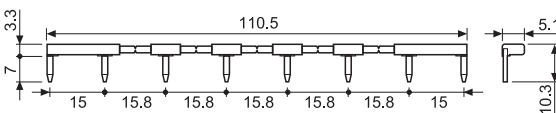
### L 97 - Rated current vs ambient temperature (for 46.61 relay / 97.01 socket combination)



095.18



<b>8-way jumper link for 97.01 and 97.02 sockets</b>	<b>095.18 (blue)</b>	<b>095.18.0 (black)</b>
Rated values	10 A - 250 V	



86.30

<b>86 series timer module</b>	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000
(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.120.0000
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.240.0000

Approvals (according to type):



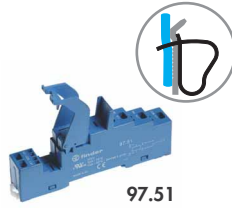
99.02

Approvals (according to type):



<b>99.02 coil indication and EMC suppression modules for 97.01 and 97.02 sockets</b>		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

DC Modules with non-standard polarity (+A2) on request.

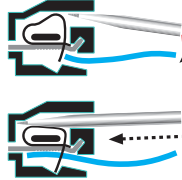
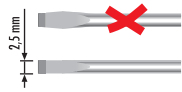


97.51

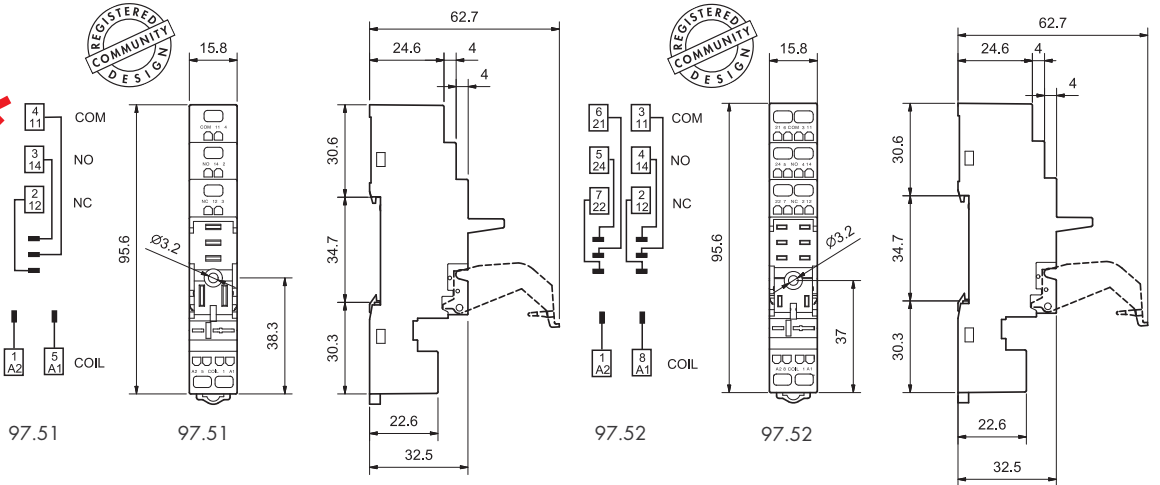
Approvals (according to type):



097.01



Screwless terminal socket panel or 35 mm rail (EN 60715) mount	97.51 (blue)	97.51.0 (black)	97.52 (blue)	97.52.0 (black)
For relay type	46.61		46.52	
<b>Accessories</b>				
Plastic retain and release clip (supplied with socket - packaging code SPA)			097.01	
Metal retaining clip			097.71	
Modules (see table below)			99.02	
Timer modules (see table below)			86.30	
<b>Technical data</b>				
Rated current	10 A - 250 V AC		8 A - 250 V AC	
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts			
Protection category	IP 20			
Ambient temperature	°C -25...+70			
Wire strip length	mm 8			
Max. wire size for 97.51 and 97.52 sockets	solid wire		stranded wire	
	mm <sup>2</sup>	2x(0.2...1.5)		2x(0.2...1.5)
	AWG	2x(24...18)		2x(24...18)



86.30

<b>86 series timer module</b>	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000
(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.120.0000
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.240.0000

Approvals (according to type):



99.02

Approvals (according to type):



<b>99.02 coil indication and EMC suppression modules for 97.51 and 97.52 sockets</b>		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

DC Modules with non-standard polarity (+A2) on request.



A

97.11

Approvals  
(according to type):



PCB socket	97.11 (blue)	97.12 (blue)
For relay type	46.61	46.52
<b>Technical data</b>		
Rated values	12 A - 250 V (see diagram L97)	8 A - 250 V
Dielectric strength	6 kV (1.2/50 µs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -40...+70	

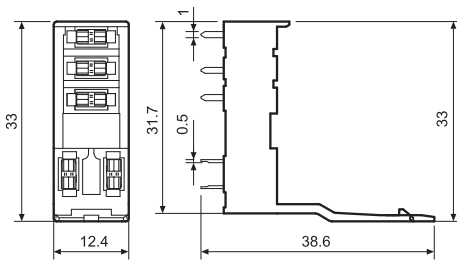
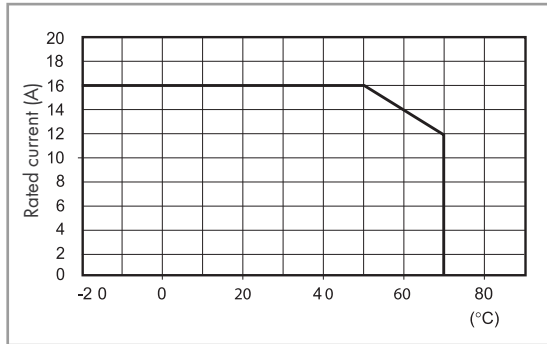


97.12

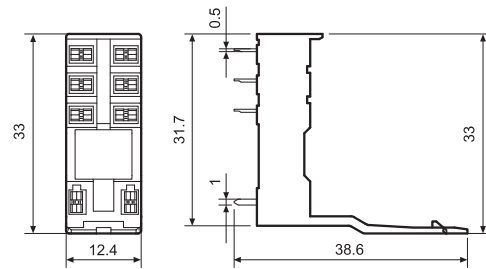
Approvals  
(according to type):



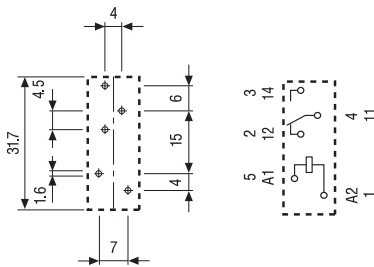
L 97 - Rated current vs ambient temperature  
(for 46.61 relay / 97.11 socket combination)



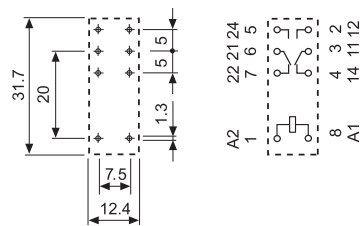
97.11



97.12



Copper side view



Copper side view

### Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:



A Standard packaging

SM Metal retaining clip

SP Plastic retaining clip



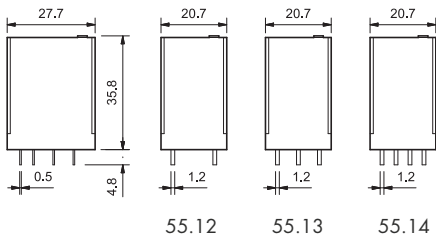
Without retaining clip

**Features**

Printed circuit mount, general purpose  
2, 3 & 4 Pole relays

- 55.12 - 2 Pole 10 A
- 55.13 - 3 Pole 10 A
- 55.14 - 4 Pole 7 A

- AC coils & DC coils
- Cadmium Free contacts
- Contact material options
- RT III (wash tight) option available



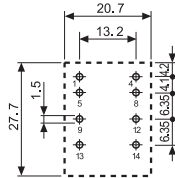
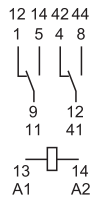
- 2 pole, 10 A
- PCB mount



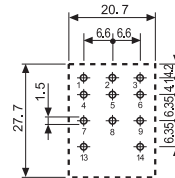
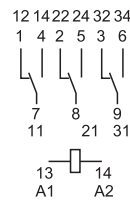
- 3 pole, 10 A
- PCB mount



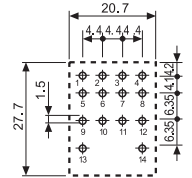
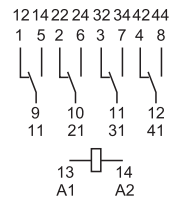
- 4 pole, 7 A
- PCB mount



Copper side view



Copper side view



Copper side view

FOR UL RATINGS SEE:  
"General technical information" page V

Contact specification		55.12	55.13	55.14
Contact configuration		2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current	A	10/20	10/20	7/15
Rated voltage/Maximum switching voltage V AC		250/400	250/400	250/250
Rated load AC1	VA	2,500	2,500	1,750
Rated load AC15 (230 V AC)	VA	500	500	350
Single phase motor rating (230 V AC)	kW	0.37	0.37	0.125
Breaking capacity DC1: 30/110/220V	A	10/0.25/0.12	10/0.25/0.12	7/0.25/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi
Coil specification		55.12	55.13	55.14
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range	AC	(0.8...1.1)U <sub>N</sub>		(0.8...1.1)U <sub>N</sub>
	DC	(0.8...1.1)U <sub>N</sub>		(0.8...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>		0.8 U <sub>N</sub> /0.5 U <sub>N</sub>
Must drop-out voltage	AC/DC	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>		0.2 U <sub>N</sub> /0.1 U <sub>N</sub>
Technical data		55.12	55.13	55.14
Mechanical life AC/DC	cycles	20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>		20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	200 · 10 <sup>3</sup>		150 · 10 <sup>3</sup>
Operate/release time	ms	10/5		11/3
Insulation between coil and contacts (1.2/50 μs)	kV	4		4
Dielectric strength between open contacts	V AC	1,000		1,000
Ambient temperature range	°C	-40...+85		-40...+85
Environmental protection		RT I		RT I

Approvals (according to type)

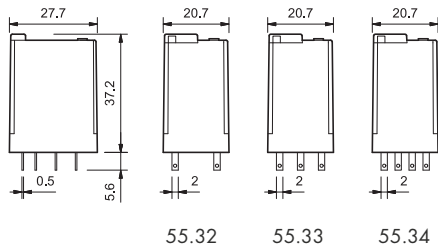


### Features

Plug-in mount, general purpose  
2, 3 & 4 Pole relays

- 55.32 - 2 Pole 10 A
- 55.33 - 3 Pole 10 A
- 55.34 - 4 Pole 7 A

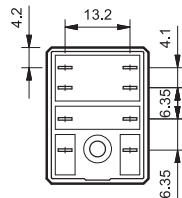
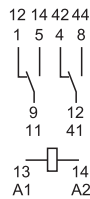
- Lockable test button and mechanical flag indicator as standard on 2 & 4 pole types
- AC coils & DC coils
- UL Listing (certain relay/socket combinations)
- Cadmium Free contacts
- Contact material options
- 94 series sockets
- Coil EMC suppression
- Timer accessories 86 series
- European Patent



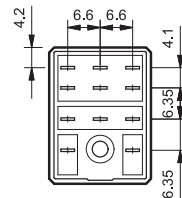
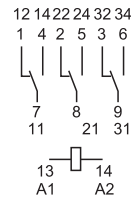
FOR UL RATINGS SEE:  
"General technical information" page V



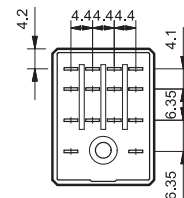
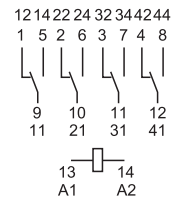
- 2 pole, 10 A
- Plug-in 94 series sockets



- 3 pole, 10 A
- Plug-in 94 series sockets



- 4 pole, 7 A
- Plug-in 94 series sockets



Contact specification		55.32	55.33	55.34
Contact configuration		2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current	A	10/20	10/20	7/15
Rated voltage/Maximum switching voltage V AC		250/400	250/400	250/250
Rated load AC1	VA	2,500	2,500	1,750
Rated load AC15 (230 V AC)	VA	500	500	350
Single phase motor rating (230 V AC)	kW	0.37	0.37	0.125
Breaking capacity DC1: 30/110/220 V	A	10/0.25/0.12	10/0.25/0.12	7/0.25/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi
Coil specification		55.32	55.33	55.34
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range	AC	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
	DC	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>	0.8 U <sub>N</sub> /0.5 U <sub>N</sub>
Must drop-out voltage	AC/DC	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>
Technical data		55.32	55.33	55.34
Mechanical life AC/DC	cycles	20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>	20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>	20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	200 · 10 <sup>3</sup>	200 · 10 <sup>3</sup>	150 · 10 <sup>3</sup>
Operate/release time	ms	10/5	10/5	11/3
Insulation between coil and contacts (1.2/50 μs)	kV	4	4	4
Dielectric strength between open contacts	V AC	1,000	1,000	1,000
Ambient temperature range	°C	-40...+85	-40...+85	-40...+85
Environmental protection		RT I	RT I	RT I

Approvals (according to type)



**Ordering information**

Example: 55 series plug-in relay, 4 CO (4PDT), 12 V DC coil, lockable test button and mechanical indicator.

<b>5</b>	<b>5</b>	<b>.</b>	<b>3</b>	<b>.</b>	<b>4</b>	<b>.</b>	<b>9</b>	<b>.</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>.</b>	<b>0</b>	<b>A</b>	<b>0</b>	<b>B</b>	<b>0</b>	<b>C</b>	<b>4</b>	<b>D</b>	<b>0</b>
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**Series** —————

**Type**  
1 = PCB  
3 = Plug-in

**No. of poles**  
2 = 2 pole, 10 A  
3 = 3 pole, 10 A  
4 = 4 pole, 7 A

**Coil version**  
8 = AC (50/60 Hz)  
9 = DC

**Coil voltage**  
See coil specifications

**A: Contact material**  
0 = Standard AgNi  
5 = AgNi + Au

**B: Contact circuit**  
0 = CO (nPDT)

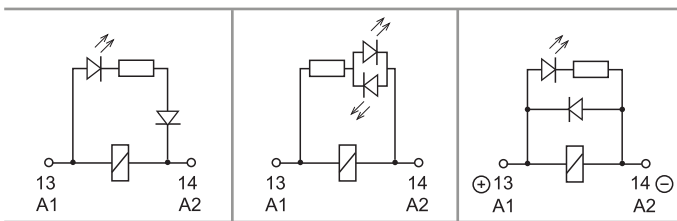
**D: Special versions**  
0 = Standard  
1 = Wash tight (RT III)  
for 55.12, 55.13 and 55.14 only

**C: Options**  
0 = None  
1 = Lockable test button  
2 = Mechanical indicator  
3 = LED (AC)  
4 = Lockable test button+mechanical indicator  
5 = Lockable test button + LED (AC)  
54 = Lockable test button + LED (AC)  
+ mechanical indicator  
6\* = Double LED (DC non-polarized)  
7\* = Lockable test button + double LED  
(DC non-polarized)  
74\* = Lockable test button + double LED  
(DC non-polarized)  
+ mechanical indicator  
8\* = LED + diode  
(DC, polarity positive to pin A1/13)  
9\* = Lockable test button + LED + diode (DC,  
polarity positive to pin A1/13)  
94\* = Lockable test button + LED + diode (DC,  
polarity positive to pin A1/13)  
+ mechanical indicator  
\* Option not available for the 220 V DC version.

**Selecting features and options: only combinations in the same row are possible.**  
Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
55.32/34	AC-DC	0 - 5	0	0	0
	AC	<b>0</b> - 5	<b>0</b>	2 - 3 - <b>4</b> - 5	<b>0</b>
	AC	0 - 5	0	54	/
	DC	<b>0</b> - 5	<b>0</b>	2 - <b>4</b> - 6 - 7 - 8 - 9	<b>0</b>
	DC	0 - 5	0	74 - 94	/
55.33	AC-DC	<b>0</b> - 5	<b>0</b>	<b>0</b>	<b>0</b>
	AC	0 - 5	0	1 - 3 - 5	0
	DC	0 - 5	0	1 - 6 - 7 - 8 - 9	0
55.12/13/14	AC-DC	<b>0</b> - 5	<b>0</b>	<b>0</b>	<b>0</b> - 1

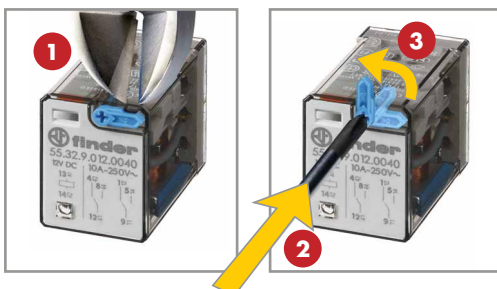
**Descriptions: options and special versions**



**C: Option 3, 5, 54**  
LED (AC)

**C: Option 6, 7, 74**  
Double LED  
(DC non-polarized)

**C: Option 8, 9, 94**  
LED + diode (DC, polarity positive to pin A1/13)



**Lockable test button and mechanical flag indicator (0010, 0040, 0050, 0054, 0070, 0074, 0090, 0094)**

The dual-purpose Finder test button can be used in two ways:  
**Case 1)** The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

**Case 2)** The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position. In both cases ensure that the test button actuation is swift and decisive.





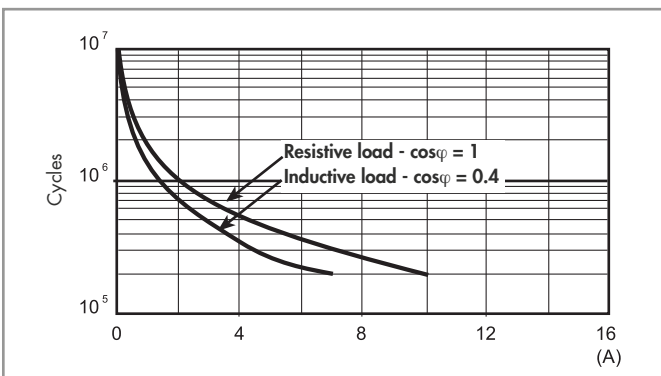
Technical data

A

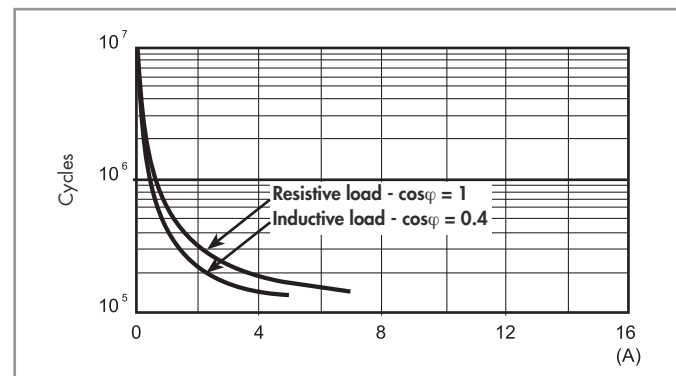
Insulation according to EN 61810-1		2 pole - 3 pole		4 pole	
Nominal voltage of supply system	V AC	230/400		230	
Rated insulation voltage	V AC	400		250	
Pollution degree		2		2	
<b>Insulation between coil and contact set</b>					
Type of Insulation		Basic		Basic	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 $\mu$ s)	4		4	
Dielectric strength	V AC	2,000		2,000	
<b>Insulation between adjacent contacts</b>					
Type of insulation		Basic		Basic	
Overvoltage category		III		II	
Rated impulse voltage	kV (1.2/50 $\mu$ s)	4		2.5	
Dielectric strength	V AC	2,000		2,000	
<b>Insulation between open contacts</b>					
Type of disconnection		Micro-disconnection		Micro-disconnection	
Dielectric strength	V AC/kV (1.2/50 $\mu$ s)	1,000/1.5		1,000/1.5	
<b>Conducted disturbance immunity</b>					
Burst (5...50)ns, 5 kHz, on A1 - A2		EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 $\mu$ s) on A1 - A2 (differential mode)		EN 61000-4-5		level 4 (4 kV)	
<b>Other data</b>					
Bounce time: NO/NC	ms	1/3			
Vibration resistance (5...55)Hz: NO/NC	g	15/15			
Shock resistance	g	16			
Power lost to the environment	without contact current	W	1		
	with rated current	W	3 (2 pole)	4 (3 pole)	3 (4 pole)
Recommended distance between relays mounted on PCB	mm	$\geq 5$			

Contact specification

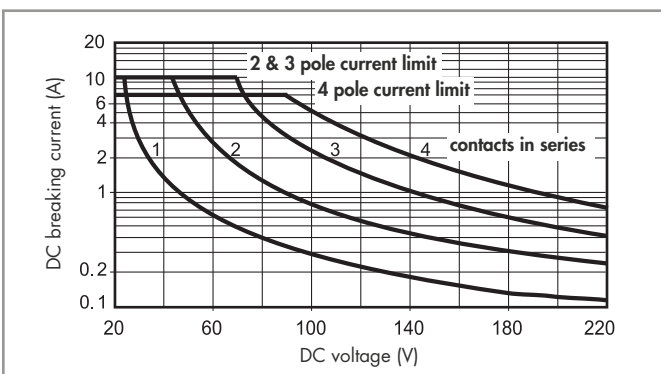
F 55 - Electrical life (AC) v contact current  
2 and 3 pole relays



F 55 - Electrical life (AC) v contact current  
4 pole relay



H 55 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load. Note: the release time for the load will be increased.



**Coil specifications**

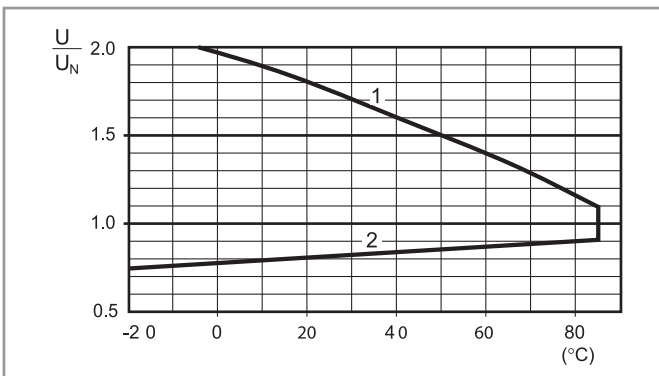
**DC coil data**

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	4.8	6.6	40	150
12	9.012	9.6	13.2	140	86
24	9.024	19.2	26.4	600	40
48	9.048	38.4	52.8	2,400	20
60	9.060	48	66	4,000	15
110	9.110	88	121	12,500	8.8
125	9.125	100	138	17,300	7.2
220	9.220	176	242	54,000	4

**AC coil data**

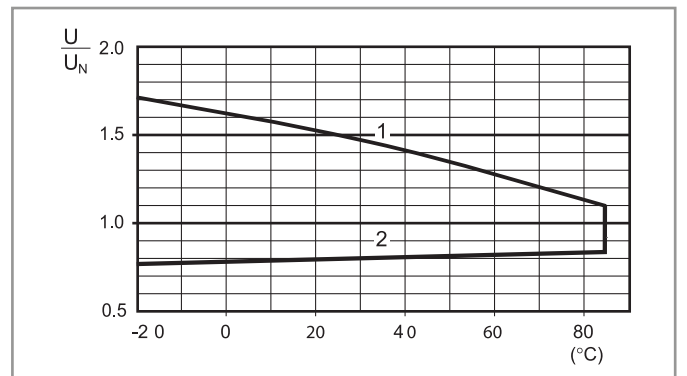
Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V		
6	8.006	4.8	6.6	12	200
12	8.012	9.6	13.2	50	97
24	8.024	19.2	26.4	190	53
48	8.048	38.4	52.8	770	25
60	8.060	48	66	1,200	21
110	8.110	88	121	4,000	12.5
120	8.120	96	132	4,700	12
230	8.230	184	253	17,000	6
240	8.240	192	264	19,100	5.3

**R 55 - DC coil operating range v ambient temperature**



1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

**R 55 - AC coil operating range v ambient temperature**



1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

**Accessories**



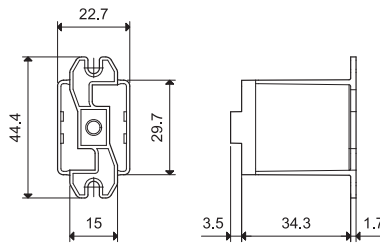
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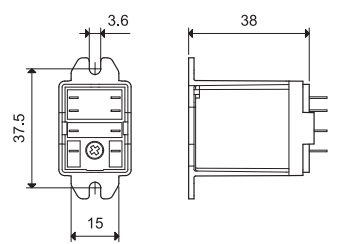
056.25 with relay

**Top flange mount adaptor for 55.32, 55.33, 55.34**

056.25



056.25



056.25 with relay



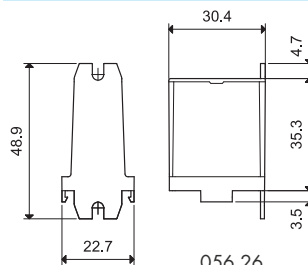
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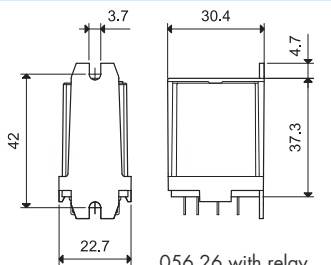
056.26 with relay

**Rear flange mount adaptor for 55.32, 55.33, 55.34**

056.26



056.26



056.26 with relay



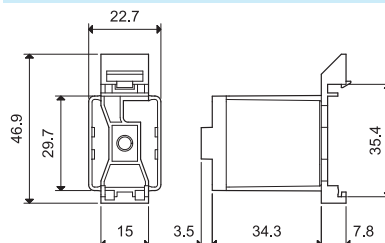
056.27



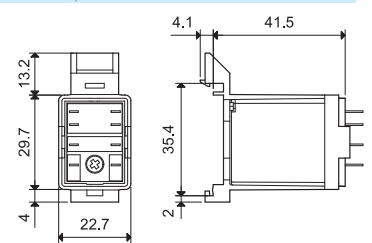
056.27 with relay

**Top 35 mm rail (EN 60715) adaptor for 55.32, 55.33, 55.34**

056.27



056.27



056.27 with relay

# 94 Series - Socket overview for 55 series relays

A



94.04  
See page 7



Module	Socket	Relay	Description	Mounting	Accessories
99.02	94.02	55.32	<b>Screw terminal (Box clamp) socket</b> - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Timer modules - Plastic retaining and release clip
	94.03	55.33			
	94.04	55.32 55.34			



94.54  
See page 8



Module	Socket	Relay	Description	Mounting	Accessories
99.02	94.54	55.32 55.34	<b>Screwless terminal socket</b> - For fast cable connections - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Timer modules - Plastic retaining and release clip



94.74  
See page 9



Module	Socket	Relay	Description	Mounting	Accessories
99.01	94.72	55.32	<b>Screw terminal (Plate clamp) socket</b>	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Metal retaining clip
	94.73	55.33			
	94.74	55.32 55.34			



94.82  
See page 9



Module	Socket	Relay	Description	Mounting	Accessories
99.01	94.82	55.32	<b>Screw terminal (Plate clamp) socket</b> - 23 mm wide for space saving	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Metal retaining clip



94.84.3  
See page 10



Module	Socket	Relay	Description	Mounting	Accessories
99.80	94.84.2	55.32 55.34	<b>Screw terminal (Box clamp) socket</b>	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Plastic retaining and release clip
	94.82.3	55.32			
	94.84.3	55.32 55.34			



94.94.3  
See page 11

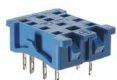


Module	Socket	Relay	Description	Mounting	Accessories
99.80	94.92.3	55.32	<b>Screw terminal (Box clamp) socket</b> - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Plastic retaining and release clip
	94.94.3	55.32 55.34			



94.14  
See page 12

Module	Socket	Relay	Description	Mounting	Accessories
—	94.12	55.32	<b>PCB sockets</b>	PCB mounting	- Metal retaining clip
—	94.13	55.33			
—	94.14	55.32 55.34			



94.22  
See page 12

Module	Socket	Relay	Description	Mounting	Accessories
—	94.22	55.32	<b>Panel mount with solder connections</b>	Panel mount on 1 mm thick panel	- Metal retaining clip
—	94.23	55.33			
—	94.24	55.32 55.34			



94.34  
See page 13

Module	Socket	Relay	Description	Mounting	Accessories
—	94.32	55.32	<b>Panel mount with solder connections</b>	M3 screw fixing	- Metal retaining clip
—	94.33	55.33			
—	94.34	55.32 55.34			



94.04

Approvals (according to type):



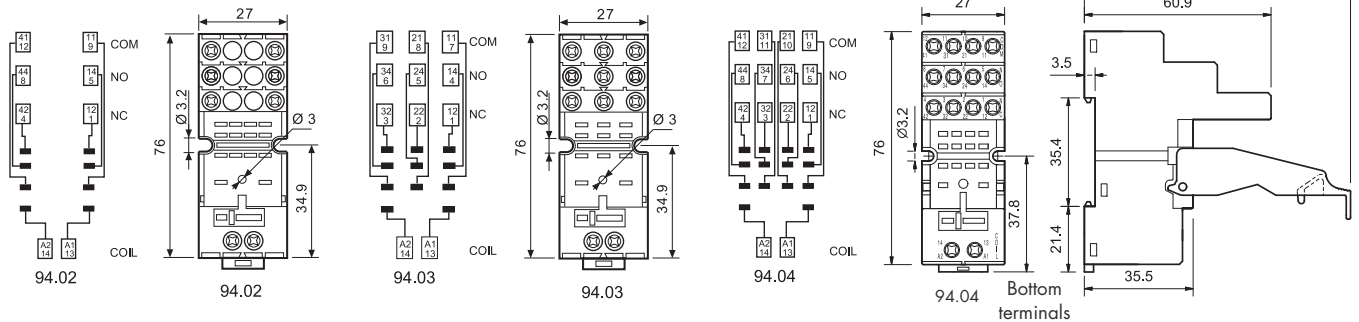
UL US Certain relay/socket combinations



094.91.3

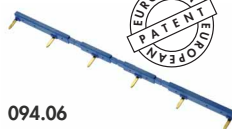


060.72

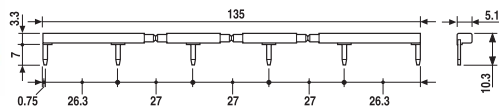


<b>Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount</b>	<b>94.02</b>	<b>94.02.0</b>	<b>94.03</b>	<b>94.03.0</b>	<b>94.04</b>	<b>94.04.0</b>
	<b>Blue</b>	<b>Black</b>	<b>Blue</b>	<b>Black</b>	<b>Blue</b>	<b>Black</b>
For relay type	55.32		55.33		55.32, 55.34	
<b>Accessories</b>						
Metal retaining clip	094.71					
Plastic retaining and release clip (supplied with socket - packaging code SPA)	094.91.3	094.91.30	094.91.3	094.91.30	094.91.3	094.91.30
6-way jumper link	094.06	094.06.0	094.06	094.06.0	094.06	094.06.0
Identification tag	094.00.4					
Modules (see table below)	99.02					
Timer modules (see table below)	86.30					
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm	060.72					
<b>Technical data</b>						
Rated values	10 A - 250 V					
Dielectric strength	2 kV AC					
Protection category	IP 20					
Ambient temperature	°C -40...+70					
⊕ Screw torque	Nm 0.5					
Wire strip length	mm 8					
Max. wire size for 94.02/03/04 sockets	solid wire			stranded wire		
	mm <sup>2</sup> 1x6 / 2x2.5			1x4 / 2x2.5		
	AWG 1x10 / 2x14			1x12 / 2x14		

<b>6-way jumper link for 94.02, 94.03 and 94.04 sockets</b>	<b>094.06 (blue)</b>	<b>094.06.0 (black)</b>
Rated values	10 A - 250 V	



094.06



<b>86 series timer modules</b>		
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000	
(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.120.0000	
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.240.0000	

86.30



Approvals (according to type): **CE ENEC PG UL US**

<b>99.02 coil indication and EMC suppression modules for 94.02, 94.03 and 94.04 sockets</b>		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

99.02



Approvals (according to type):



DC Modules with non-standard polarity (+A2) on request.

A

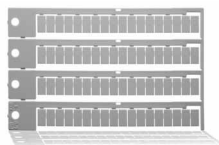


94.54

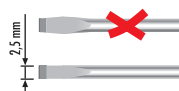
Approvals  
(according to type):



094.91.3



060.72



094.56



86.30



99.02

Approvals  
(according to type):



DC Modules with  
non-standard polarity  
(+A2) on request.

**Screwless terminal socket 35 mm rail (EN 60715) mount**

For relay type

94.54 (blue)

Accessories

55.32, 55.34

Metal retaining clip

094.71

Plastic retaining and release clip

094.91.3

6-way jumper link

094.56

Modules (see table below)

99.02, 86.30

Sheet of marker tags, 72 tags, 6x12 mm

060.72

**Technical data**

Rated values

10 A - 250 V

Dielectric strength

2 kV AC

Protection category

IP 20

Ambient temperature

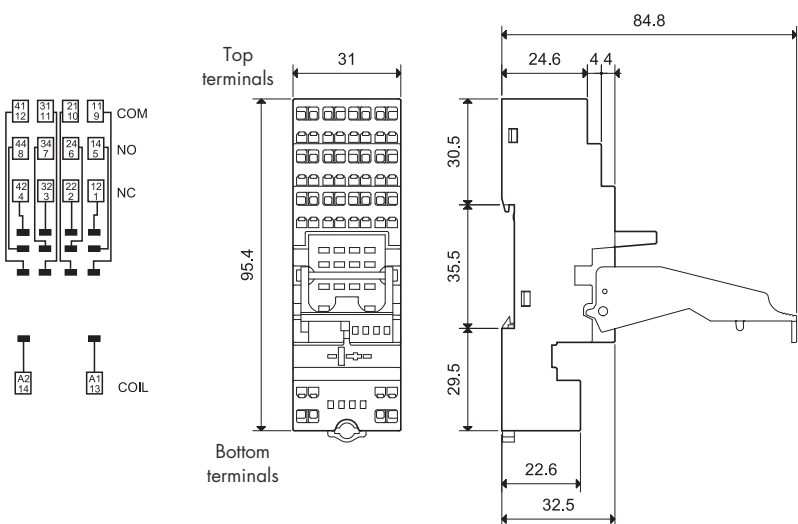
°C -25...+70

Wire strip length

mm 10

Max. wire size for 94.54 socket

	solid wire	stranded wire
mm <sup>2</sup>	2x(0.2...1.5)	2x(0.2...1.5)
AWG	2x(24...14)	2x(24...14)



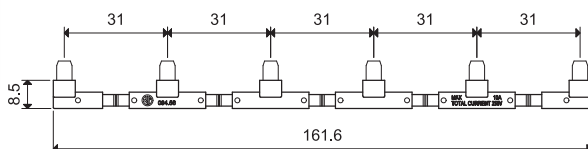
Sockets + jumper link

**6-way jumper link**

Rated values

094.56 (blue)

10 A - 250 V



**86 series timer modules**

(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)

86.30.0.024.0000

(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)

86.30.8.120.0000

(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)

86.30.8.240.0000

Approvals

(according to type): CE EAC PG cULUS

**99.02 coil indication and EMC suppression modules for 94.54 sockets**

Diode (+A1, standard polarity)

(6...220)V DC 99.02.3.000.00

LED

(6...24)V DC/AC 99.02.0.024.59

LED

(28...60)V DC/AC 99.02.0.060.59

LED

(110...240)V DC/AC 99.02.0.230.59

LED + Diode (+A1, standard polarity)

(6...24)V DC 99.02.9.024.99

LED + Diode (+A1, standard polarity)

(28...60)V DC 99.02.9.060.99

LED + Diode (+A1, standard polarity)

(110...220)V DC 99.02.9.220.99

LED + Varistor

(6...24)V DC/AC 99.02.0.024.98

LED + Varistor

(28...60)V DC/AC 99.02.0.060.98

LED + Varistor

(110...240)V DC/AC 99.02.0.230.98

RC circuit

(6...24)V DC/AC 99.02.0.024.09

RC circuit

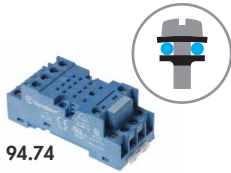
(28...60)V DC/AC 99.02.0.060.09

RC circuit

(110...240)V DC/AC 99.02.0.230.09

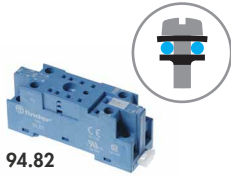
Residual current by-pass

(110...240)V AC 99.02.8.230.07



94.74

Approvals (according to type):

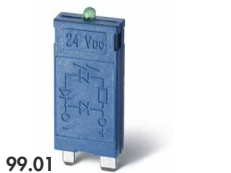
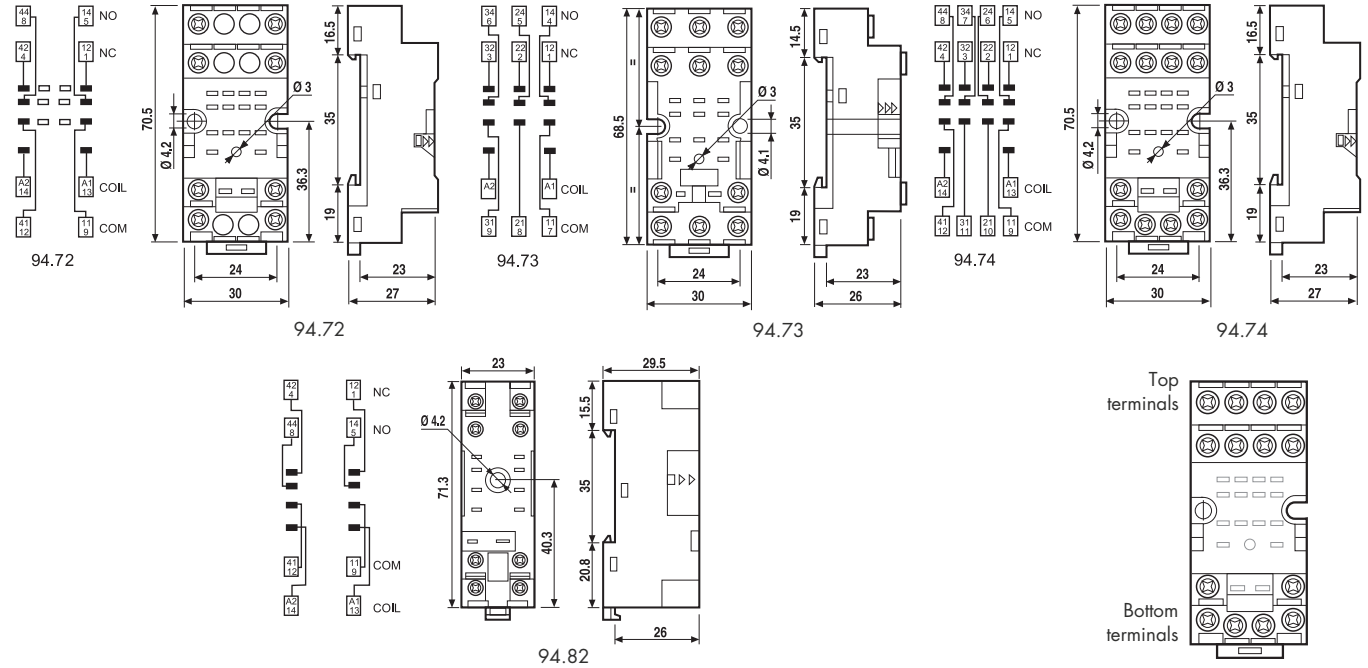


94.82

Approvals (according to type):



<b>Screw terminal (Plate clamp) socket panel or 35 mm (EN 60715) rail mount</b>	<b>94.72</b>	<b>94.72.0</b>	<b>94.73</b>	<b>94.73.0</b>	<b>94.74</b>	<b>94.74.0</b>
	<b>Blue</b>	<b>Black</b>	<b>Blue</b>	<b>Black</b>	<b>Blue</b>	<b>Black</b>
For relay type	55.32		55.33		55.32, 55.34	
<b>Accessories</b>						
Metal retaining clip (supplied with socket - packaging code SMA)					094.71	
Modules (see table below)					99.01	
<b>Screw terminal (Plate clamp) socket: panel or 35 mm rail mount</b>	<b>94.82 (blue)</b>		<b>94.82.0 (black)</b>			
For relay type	55.32		55.32			
<b>Accessories</b>						
Metal retaining clip (supplied with socket - packaging code SMA)					094.71	
Modules (see table below)					99.01	
<b>Technical data</b>						
Rated values	10 A - 250 V					
Dielectric strength	2 kV AC					
Protection category	IP 20					
Ambient temperature	°C -40...+70					
Screw torque	Nm 0.5					
Wire strip length	mm 8 (94.72/73/74)		9 (94.82)			
Max. wire size for 94.72/73/74 and 94.82 sockets	solid wire		stranded wire			
	mm <sup>2</sup> 1x2.5 / 2x1.5		1x2.5 / 2x1.5			
	AWG 1x14 / 2x16		1x14 / 2x16			



99.01

Approvals (according to type):



99.01 coil indication and EMC suppression modules for 94.72, 94.73, 94.74 and 94.82 sockets		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.01.3.000.00
Diode (+A2, non standard polarity)	(6...220)V DC	99.01.2.000.00
LED	(6...24)V DC/AC	99.01.0.024.59
LED	(28...60)V DC/AC	99.01.0.060.59
LED	(110...240)V DC/AC	99.01.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.01.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.01.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.01.9.220.99
LED + Diode (+A2, non standard polarity)	(6...24)V DC	99.01.9.024.79
LED + Diode (+A2, non standard polarity)	(28...60)V DC	99.01.9.060.79
LED + Diode (+A2, non standard polarity)	(110...220)V DC	99.01.9.220.79
LED + Varistor	(6...24)V DC/AC	99.01.0.024.98
LED + Varistor	(28...60)V DC/AC	99.01.0.060.98
LED + Varistor	(110...240)V DC/AC	99.01.0.230.98
RC circuit	(6...24)V DC/AC	99.01.0.024.09
RC circuit	(28...60)V DC/AC	99.01.0.060.09
RC circuit	(110...240)V DC/AC	99.01.0.230.09
Residual current by-pass	(110...240)V AC	99.01.8.230.07

\* Modules in Black housing are available on request.

Green LED is standard. Red LED available on request.

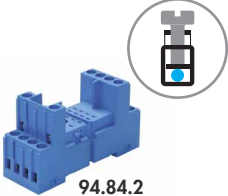


A



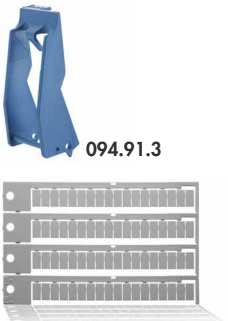
94.84.3

Approvals  
(according to type):



94.84.2

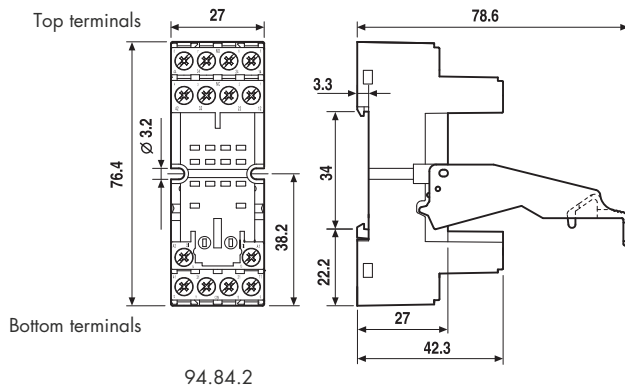
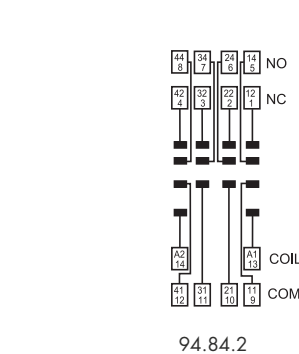
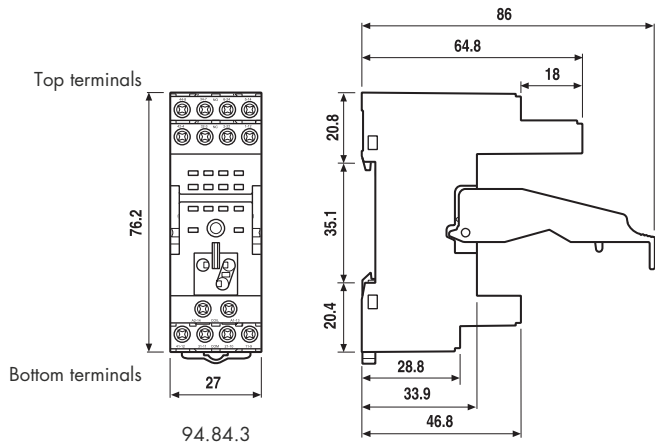
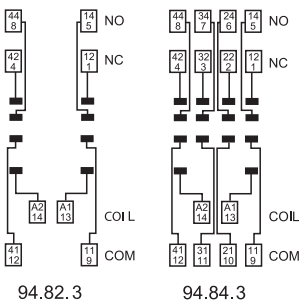
Approvals  
(according to type):



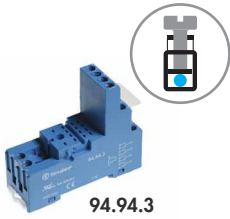
094.91.3

060.72

<b>Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount</b> For relay type	<b>94.82.3</b> <b>Blue</b>	<b>94.82.30</b> <b>Black</b>	<b>94.84.3</b> <b>Blue</b>	<b>94.84.30</b> <b>Black</b>
	55.32		55.32, 55.34	
<b>Accessories</b>				
Metal retaining clip (supplied with socket - packaging code SMA)	094.71			
Plastic retaining and release clip	094.91.3	094.91.30	094.91.3	094.91.30
6-way jumper link	094.06	094.06.0	094.06	094.06.0
Identification tag	094.80.3			
Modules (see table next page)	99.80			
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm	060.72			
<b>Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount</b> For relay type	<b>94.84.2</b> <b>Blue</b>		<b>94.84.20</b> <b>Black</b>	
	55.32, 55.34			
<b>Accessories</b>				
Metal retaining clip (supplied with socket - packaging code SMA)	094.71			
Plastic retaining and release clip	094.91.3		094.91.30	
6-way jumper link	094.06		094.06.0	
Identification tag	094.80.3			
Modules (see table next page)	99.80			
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm	060.72			
<b>Technical data</b>				
Rated values	10 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C	-40...+70		
⊕ Screw torque	Nm	0.5		
Wire strip length	mm	7		
Max. wire size for 94.82.3, 94.84.3 and 94.84.2 sockets		solid wire	stranded wire	
	mm <sup>2</sup>	1x6 / 2x2.5		1x4 / 2x2.5
	AWG	1x10 / 2x14		1x12 / 2x14



A

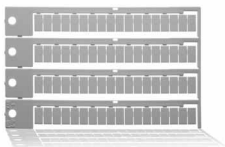


94.94.3

Approvals (according to type):

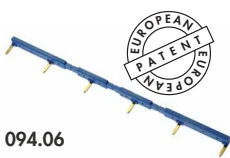
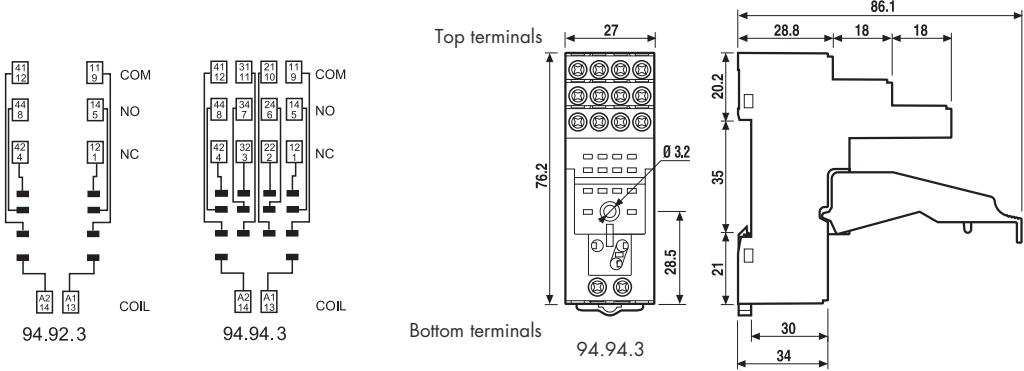


094.91.3



060.72

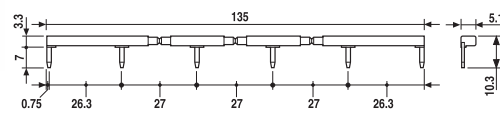
<b>Screw terminal (Box clamp) socket</b> panel or 35 mm rail mount	<b>94.92.3 (blue)</b>	<b>94.92.30 (black)</b>	<b>94.94.3 (blue)</b>	<b>94.94.30 (black)</b>
For relay type	55.32		55.32, 55.34	
<b>Accessories</b>				
Metal retaining clip	094.71			
Plastic retaining and release clip	094.91.3	094.91.30	094.91.3	094.91.30
6-way jumper link	094.06	094.06.0	094.06	094.06.0
Identification tag	094.80.3			
Modules (see table below page)	99.80			
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm	060.72			
<b>Technical data</b>				
Rated values	10 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -25...+70			
⊕ Screw torque	Nm	0.5		
Wire strip length	mm	8		
Max. wire size for 94.92.3 and 94.94.3 sockets		solid wire	stranded wire	
	mm <sup>2</sup>	1x6 / 2x2.5		1x4 / 2x2.5
	AWG	1x10 / 2x14		1x12 / 2x14



094.06



<b>6-way jumper link</b> for 94.84.2, 94.82.3, 94.84.3, 94.92.3 and 94.94.3 sockets	<b>094.06 (blue)</b>	<b>094.06.0 (black)</b>
Rated values	10 A - 250 V	



99.80

Approvals (according to type):



\* Modules in Black housing are available on request.

Green LED is standard. Red LED available on request.

<b>99.80 coil indication and EMC suppression modules</b> for 94.84.2, 94.82.3, 94.84.3, 94.92.3 and 94.94.3 sockets		
		<b>Blue*</b>
Diode (+A1, standard polarity)	(6...220)V DC	99.80.3.000.00
LED	(6...24)V DC/AC	99.80.0.024.59
LED	(28...60)V DC/AC	99.80.0.060.59
LED	(110...240)V DC/AC	99.80.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.80.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.80.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.80.9.220.99
LED + Varistor	(6...24)V DC/AC	99.80.0.024.98
LED + Varistor	(28...60)V DC/AC	99.80.0.060.98
LED + Varistor	(110...240)V DC/AC	99.80.0.230.98
RC circuit	(6...24)V DC/AC	99.80.0.024.09
RC circuit	(28...60)V DC/AC	99.80.0.060.09
RC circuit	(110...240)V DC/AC	99.80.0.230.09
Residual current by-pass	(110...240)V AC	99.80.8.230.07

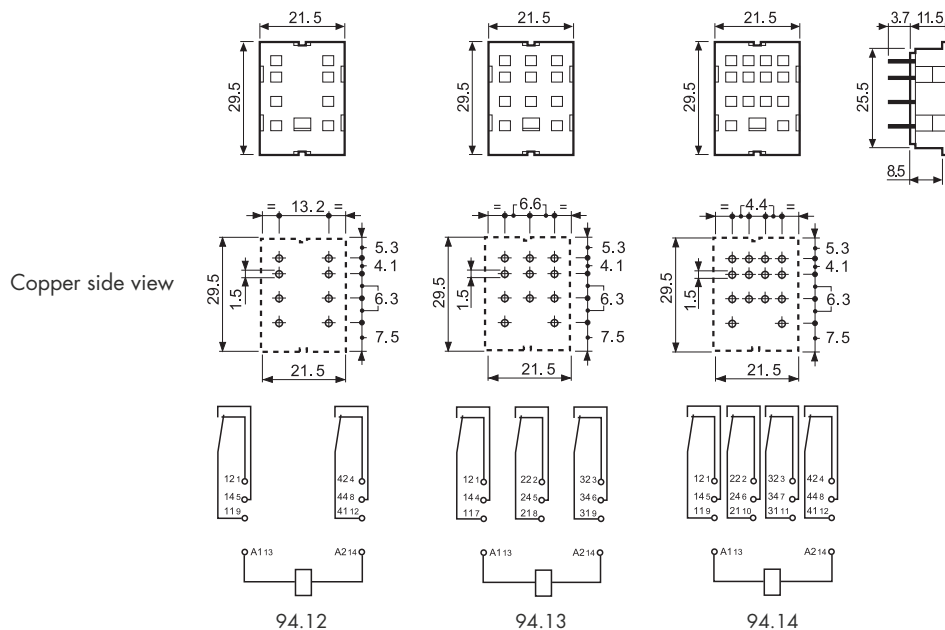
A



94.14  
Approvals  
(according to type):



PCB socket	94.12 Blue	94.12.0 Black	94.13 Blue	94.13.0 Black	94.14 Blue	94.14.0 Black
For relay type	55.32		55.33		55.32, 55.34	
<b>Accessories</b>						
Metal retaining clip (supplied with socket - packaging code SMA)	094.51					
<b>Technical data</b>						
Rated values	10 A - 250 V					
Dielectric strength	2 kV AC					
Ambient temperature	°C -40...+70					



94.22  
Approvals  
(according to type):



Panel mount solder socket 1 mm thick panel	94.22 Blue	94.22.0 Black	94.23 Blue	94.23.0 Black	94.24 Blue	94.24.0 Black
For relay type	55.32		55.33		55.32, 55.34	
<b>Accessories</b>						
Metal retaining clip (supplied with socket - packaging code SMA)	094.51					
<b>Technical data</b>						
Rated values	10 A - 250 V					
Dielectric strength	2 kV AC					
Ambient temperature	°C -40...+70					







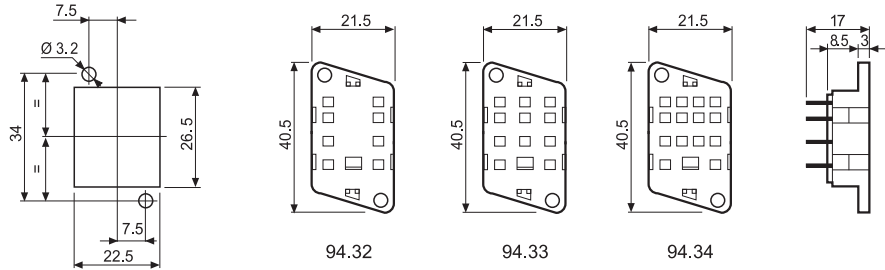
94.34

Approvals  
(according to type):



Panel mount socket M3 screw fixing - solder connections	94.32 Blue	94.32.0 Black	94.33 Blue	94.33.0 Black	94.34 Blue	94.34.0 Black
For relay type	55.32		55.33		55.32, 55.34	
<b>Accessories</b>						
Metal retaining clip (supplied with socket - packaging code SMA)	094.51					
<b>Technical data</b>						
Rated values	10 A - 250 V					
Dielectric strength	2 kV AC					
Ambient temperature	°C -40...+70					

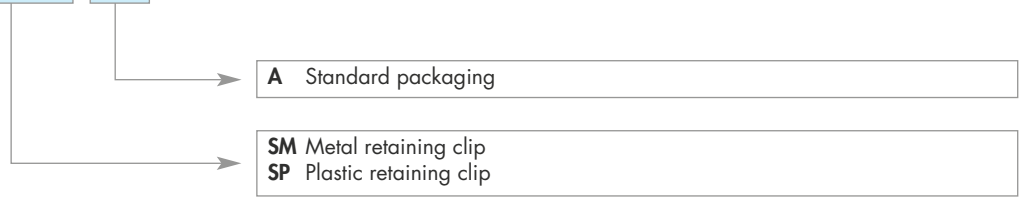
**A**



### Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

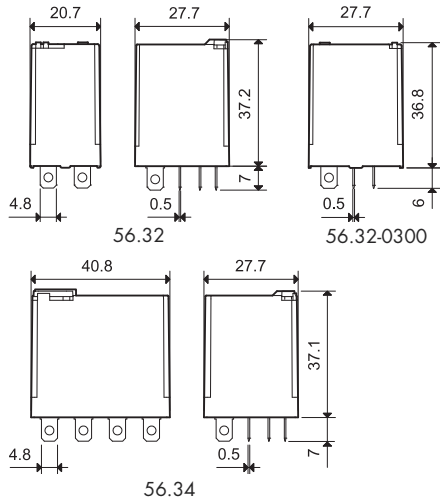




**Features**

**Plug-in - 12 A Power relay, 2 & 4 pole**

- Flange mount option - (Faston 187, 4.8x0.5 mm termination)
- AC coils & DC coils
- Lockable test button and mechanical flag indicator
- Cadmium Free contacts (standard version)
- Contact material options
- 96 series sockets
- Coil EMC suppression
- Accessories
- European Patent



\* For 4 CO (4PDT) only.

FOR UL RATINGS SEE: "General technical information" page V

**Contact specification**

Contact configuration	2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - ≥1.5mm gap
Rated current/Maximum peak current	A 12/20		12/20
Rated voltage/Maximum switching voltage V AC	250/400		250/400
Rated load AC1	VA 3,000		3,000
Rated load AC15 (230 V AC)	VA 700		700
Single phase motor rating (230 V AC)	kW 0.55		0.55
Breaking capacity DC1: 30/110/220 V	A 12/0.5/0.25		12/1/0.5
Minimum switching load	mW (V/mA) 500 (10/5)		500 (10/5)
Standard contact material	AgNi		AgNi

**Coil specification**

Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*	
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	
Rated power AC/DC	VA (50 Hz)/W	1.5/1	2/1.3
Operating range	AC	(0.8...1.1)U <sub>N</sub>	
	DC	(0.8...1.1)U <sub>N</sub>	(0.85...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8 U <sub>N</sub> /0.6 U <sub>N</sub>	
Must drop-out voltage	AC/DC	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>	

**Technical data**

Mechanical life AC/DC	cycles	20 · 10 <sup>6</sup> /50 · 10 <sup>6</sup>	
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	
Operate/release time	ms	8/3	10/4
		4	5
Insulation between coil and contacts (1.2/50 μs)	kV	4	
Dielectric strength between open contacts	V AC	1,000	
Ambient temperature range	°C	-40...+70	
Environmental protection		RT I	

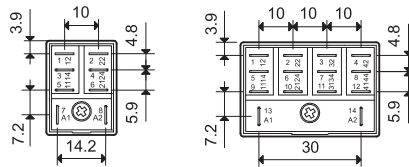
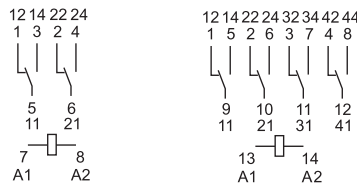
**Approvals (according to type)**



**56.32/56.34**



- 2 or 4 pole changeover contact
- Plug-in/Faston 187



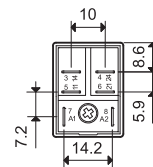
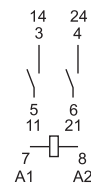
56.32

56.34

**56.32-0300**



- 2 pole normally open contact (≥1.5 mm gap)
- Plug-in/Faston 187

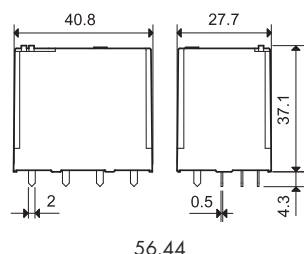
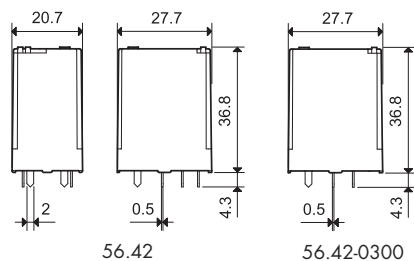


56.32-0300

## Features

### Printed circuit mount 12 A Power relay

- 2 & 4 pole
- AC coils & DC coils
- Cadmium Free contacts (standard version)
- Contact material option
- RT III (wash tight) option available



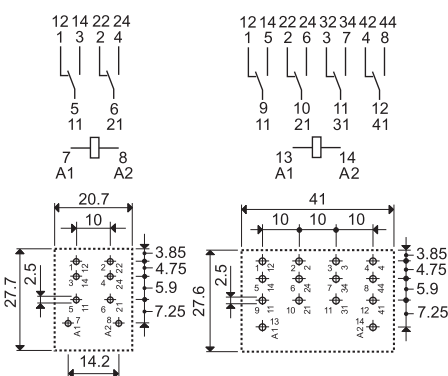
\* For 4 CO (4PDT) only.

FOR UL RATINGS SEE:  
"General technical information" page V

### 56.42/56.44



- 2 or 4 pole changeover contact
- PCB mount



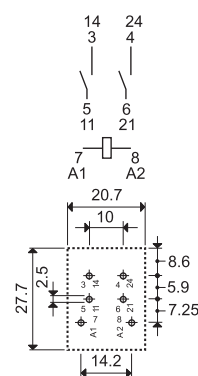
56.42  
Copper side view

56.44  
Copper side view

### 56.42-0300



- 2 pole normally open contact ( $\geq 1.5$  mm gap)
- PCB mount



56.42-0300  
Copper side view

### Contact specification

Contact configuration	2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - $\geq 1.5$ mm gap
Rated current/Maximum peak current A	12/20		12/20
Rated voltage/Maximum switching voltage V AC	250/400		250/400
Rated load AC1 VA	3,000		3,000
Rated load AC15 (230 V AC) VA	700		700
Single phase motor rating (230 V AC) kW	0.55		0.55
Breaking capacity DC1: 30/110/220 V A	12/0.5/0.25		12/1/0.5
Minimum switching load mW (V/mA)	500 (10/5)		500 (10/5)
Standard contact material	AgNi		AgNi

### Coil specification

Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220
Rated power AC/DC	VA (50 Hz)/W	1.5/1   2/1.3
Operating range	AC	$(0.8 \dots 1.1) U_N$
	DC	$(0.8 \dots 1.1) U_N$   $(0.85 \dots 1.1) U_N$
Holding voltage	AC/DC	$0.8 U_N / 0.6 U_N$
Must drop-out voltage	AC/DC	$0.2 U_N / 0.1 U_N$

### Technical data

Mechanical life AC/DC	cycles	$20 \cdot 10^6 / 50 \cdot 10^6$	$20 \cdot 10^6 / -$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	8/3	10/4
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	4	5
Dielectric strength between open contacts	V AC	1,000	2,000
Ambient temperature range	$^{\circ}$ C	-40...+70	-40...+70
Environmental protection		RT I	RT I

### Approvals (according to type)



**Ordering information**

Example: 56 series plug-in relay, 2 CO (DPDT), 12 V DC coil, lockable test button and mechanical indicator.

**5 6 . 3 2 . 9 . 0 1 2 . 0 0 4 0**

**Series** \_\_\_\_\_

**Type** \_\_\_\_\_  
3 = Plug-in  
4 = PCB

**No. of poles** \_\_\_\_\_  
2 = 2 pole, 12 A  
4 = 4 pole, 12 A

**Coil version** \_\_\_\_\_  
8 = AC (50/60 Hz)  
9 = DC

**Coil voltage** \_\_\_\_\_  
See coil specifications

**A: Contact material**  
0 = Standard AgNi  
2 = AgCdO  
4 = AgSnO<sub>2</sub>

**B: Contact circuit**  
0 = CO (nPDT)  
3 = NO (nPST), ≥ 1.5 mm contact gap

**D: Special versions**  
0 = Standard  
1 = Wash tight (RT III) for 56.42 and 56.44 only  
6 = Rear flange mount (4 pole only)  
8 = Rear 35 mm rail mount (4 pole only)  
For other mounting options see page 6

**C: Options**  
0 = None  
2 = Mechanical indicator  
3\* = LED (AC)  
4 = Lockable test button+mechanical indicator  
5\* = Lockable test button + LED (AC)  
54\* = Lockable test button + LED (AC) + mechanical indicator  
6\* = Double LED (DC non-polarized)  
7\* = Lockable test button + double LED (DC non-polarized)  
74\* = Lockable test button + double LED (DC non-polarized) + mechanical indicator  
8\* = LED + diode (DC, polarity positive to pin 7) for 56.32 only  
9\* = Lockable test button + LED + diode (DC, polarity positive to pin 7) for 56.32 only  
94\* = Lockable test button + LED + diode (DC, polarity positive to pin 7) + mechanical indicator for 56.32 only  
\* Options not available for 220 V DC and 400 V AC versions.

**Selecting features and options: only combinations in the same row are possible.**  
Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
56.32	AC	<b>0</b> - 2 - 4	<b>0</b>	0 - 2 - 3 - <b>4</b> - 5	<b>0</b>
	AC	0 - 2 - 4	0	54	/
	AC	0 - 2 - 4	3	0 - 3 - 5	0
	DC	<b>0</b> - 2 - 4	<b>0</b>	0 - 2 - <b>4</b> - 6 - 7 - 8 - 9	<b>0</b>
	DC	0 - 2 - 4	0	74 - 94	/
56.34	AC	<b>0</b> - 2 - 4	<b>0</b>	<b>0</b> - 2 - 3 - <b>4</b> - 5	<b>0</b> - 6 - 8
	AC	0 - 2 - 4	0	54	/
	DC	<b>0</b> - 2 - 4	<b>0</b>	<b>0</b> - 2 - <b>4</b> - 6 - 7	<b>0</b> - 6 - 8
	DC	0 - 2 - 4	0	74	/
56.42	DC	<b>0</b> - 2 - 4	<b>0</b>	<b>0</b>	<b>0</b> - 1
	AC	0 - 2 - 4	0 - 3	0	0 - 1
56.44	AC-DC	<b>0</b> - 2 - 4	<b>0</b>	<b>0</b>	<b>0</b> - 1

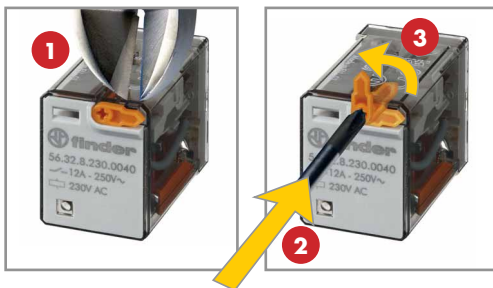
**Special versions for Rail Applications on request**

**Descriptions: options and special versions**

**C: Option 3, 5, 54**  
LED (AC)

**C: Option 6, 7, 74**  
Double LED  
(DC non-polarized)

**C: Option 8, 9, 94**  
LED + diode (DC, polarity positive to pin 7) - (56.32 only)



**Lockable test button and mechanical flag indicator (0040, 0050, 0054, 0070, 0074, 0090, 0094)**

The dual-purpose Finder test button can be used in two ways:

**Case 1)** The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

**Case 2)** The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

In both cases ensure that the test button actuation is swift and decisive.

**Technical data**

\*Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

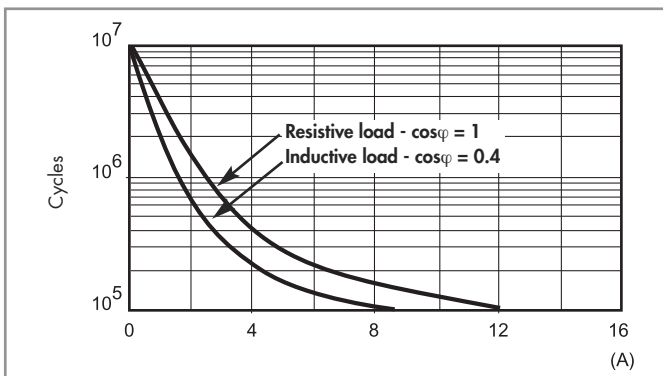
A

Insulation according to EN 61810-1		2 CO - 4 CO		2 NO	
Nominal voltage of supply system	V AC	230/400		230/400	
Rated insulation voltage	V AC	250	400	250	400
Pollution degree		3	2	3	2
<b>Insulation between coil and contact set</b>					
Type of insulation		Basic		Basic	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 µs)	4		4	
Dielectric strength	V AC	2,500		2,500	
<b>Insulation between adjacent contacts</b>					
Type of insulation		Basic		Basic	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 µs)	4		4	
Dielectric strength	V AC	2,500		2,500	
<b>Insulation between open contacts</b>					
Type of disconnection		Micro-disconnection		Full-disconnection*	
Overvoltage category		—		II	
Rated impulse voltage	kV (1.2/50 µs)	—		2.5	
Dielectric strength	V AC/(1.2/50 µs)	1,000/1.5		2,000/3	
<b>Conducted disturbance immunity</b>					
Burst (5...50) ns, 5 kHz, on A1 - A2		EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 µs) on A1 - A2 (differential mode)		EN 61000-4-5		level 4 (4 kV)	
<b>Other data</b>					
Bounce time: NO/NC	ms	1/4 (changeover)		3/— (normally open)	
Vibration resistance (10...150 Hz): NO/NC	g	17/14			
Shock resistance NO/NC	g	20/14			
Power lost to the environment	without contact current	W	1 (56.32, 56.42)		1.3 (56.34, 56.44)
	with rated current	W	3.8 (56.32, 56.42)		6.9 (56.34, 56.44)
Recommended distance between relays mounted on PCB	mm	≥ 5			

**Contact specification**

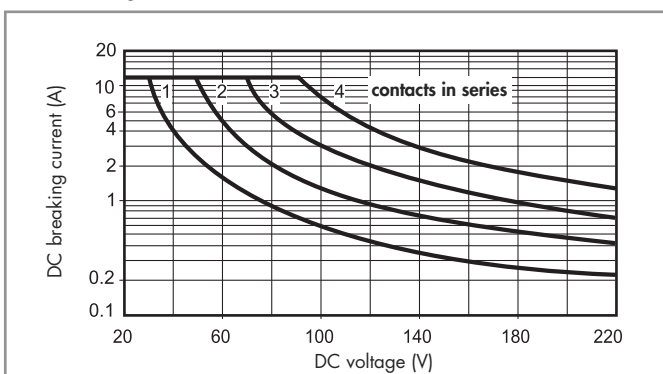
**F 56 - Electrical life (AC) v contact current**

2 - 4 pole relays



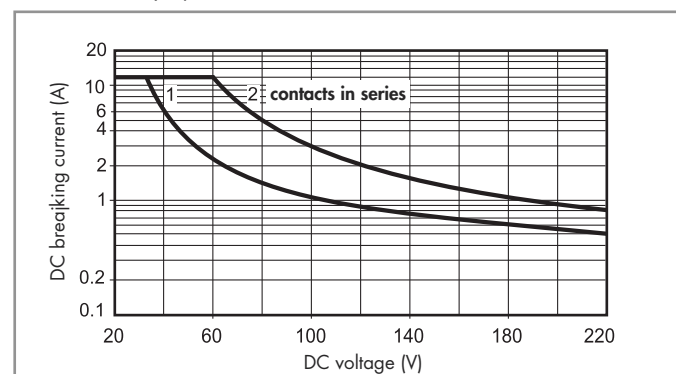
**H 56 - Maximum DC1 breaking capacity**

Changeover version



**H 56 - Maximum DC1 breaking capacity**

Normally open version



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.

Note: the release time of the load will be increased.

Coil specifications

DC coil data, 2 pole relay

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	4.8	6.6	40	150
12	9.012	9.6	13.2	140	86
24	9.024	19.2	26.4	600	40
48	9.048	38.4	52.8	2,400	20
60	9.060	48	66	4,000	15
110	9.110	88	121	12,500	8.8
125	9.125	100	138	17,300	7.2
220	9.220	176	242	54,000	4

AC coil data, 2 pole relay

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}^*$ V	$U_{max}$ V		
6	8.006	4.8	6.6	12	200
12	8.012	9.6	13.2	50	97
24	8.024	19.2	26.4	190	53
48	8.048	38.4	52.8	770	25
60	8.060	48	66	1,200	21
110	8.110	88	121	3,940	12.5
120	8.120	96	132	4,700	12
230	8.230	184	253	17,000	6
240	8.240	192	264	19,100	5.3

\*  $U_{min} = 0.85 U_N$  for normally open version.

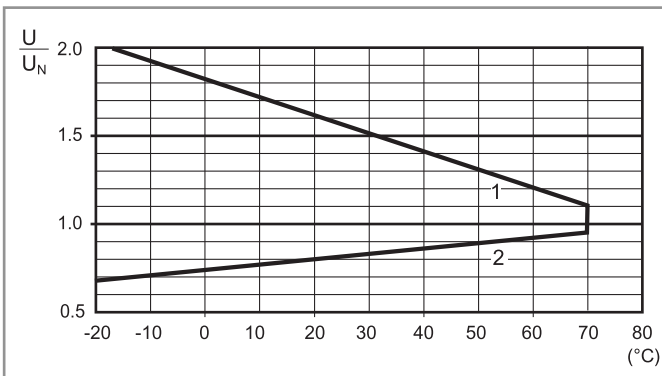
DC coil data, 4 pole relay

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	5.1	6.6	32.5	185
12	9.012	10.2	13.2	123	97
24	9.024	20.4	26.4	490	49
48	9.048	40.8	52.8	1,800	27
60	9.060	51	66	3,000	20
110	9.110	93.5	121	10,400	10.5
125	9.125	107	138	14,200	8.8
220	9.220	187	242	44,000	5

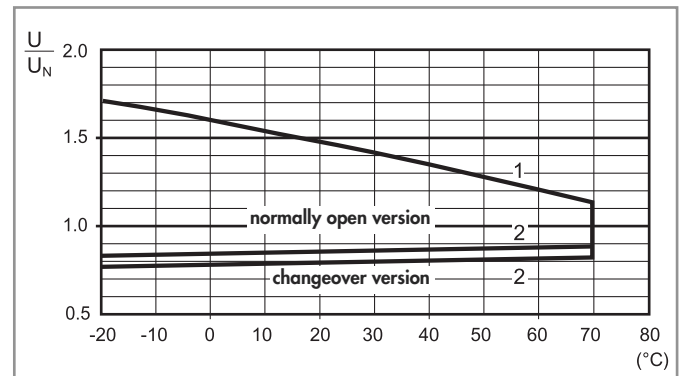
AC coil data, 4 pole relay

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V		
6	8.006	4.8	6.6	5.7	300
12	8.012	9.6	13.2	22	150
24	8.024	19.2	26.4	81	90
48	8.048	38.4	52.8	380	37
60	8.060	48	66	600	30
110	8.110	88	121	1,900	16.5
120	8.120	96	132	2,560	13.4
230	8.230	184	253	7,700	9
240	8.240	192	264	10,000	7.5
400	8.400	320	440	26,000	4.9

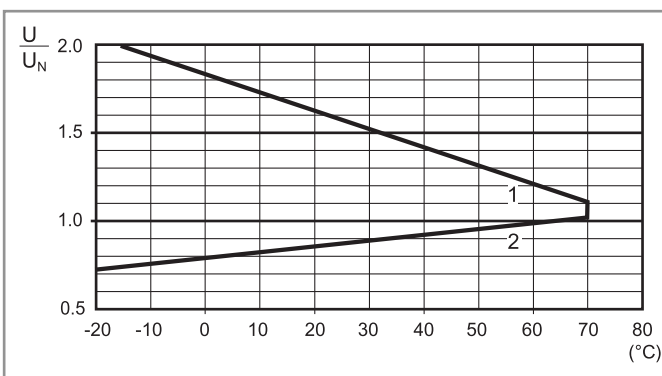
R 56 - DC coil operating range v ambient temperature  
2 pole relay



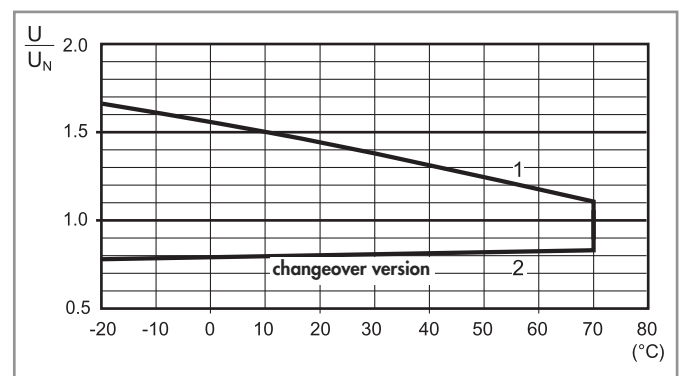
R 56 - AC coil operating range v ambient temperature  
2 pole relay



R 56 - DC coil operating range v ambient temperature  
4 pole relay



R 56 - AC coil operating range v ambient temperature  
4 pole relay



12014, www.finder.net.com

1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

Accessories

A



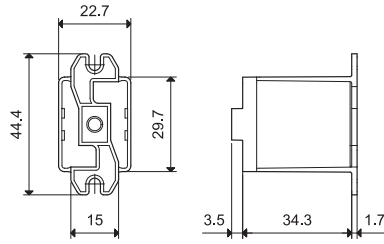
056.25



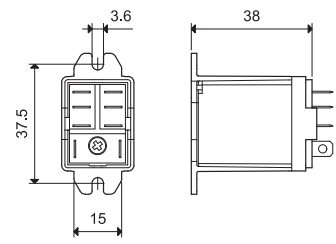
056.25 with relay

Top flange mount adaptor for 56.32

056.25



056.25



056.25 with relay



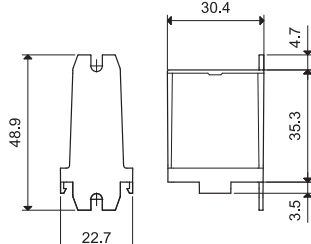
056.26



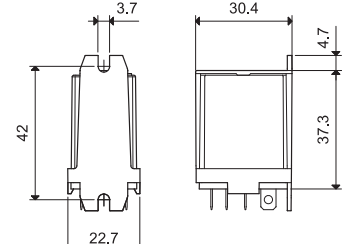
056.26 with relay

Rear flange mount adaptor for 56.32

056.26



056.26



056.26 with relay



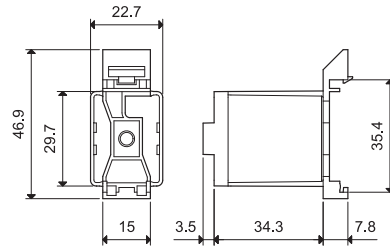
056.27



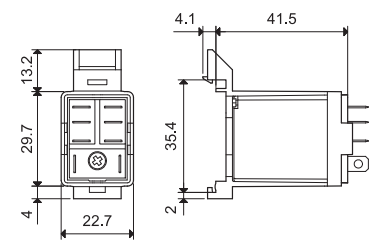
056.27 with relay

Top 35 mm rail (EN 60715) adaptor for 56.32

056.27



056.27



056.27 with relay



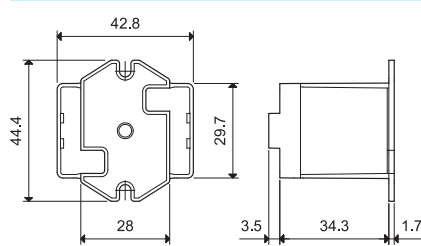
056.45



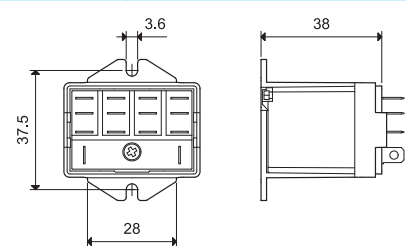
056.45 with relay

Top flange mount adaptor for 56.34

056.45



056.45



056.45 with relay



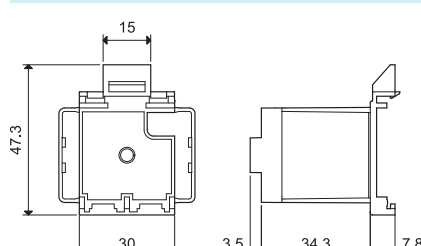
056.47



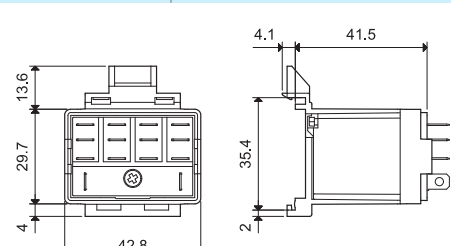
056.47 with relay

Top 35 mm rail (EN 60715) adaptor for 56.34

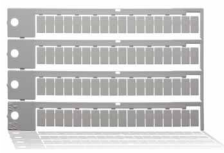
056.47



056.47



056.47 with relay

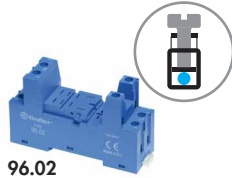


060.72

Sheet of marker tags for relay type 56.34, plastic, 72 tags, 6x12 mm

060.72





**96.02**  
Approvals  
(according to type):

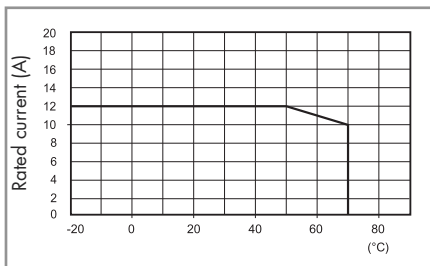


**96.04**  
Approvals  
(according to type):

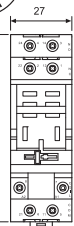


**094.91.3**

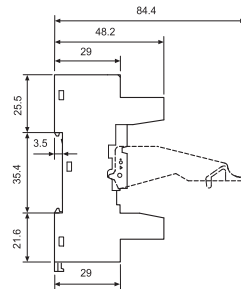
**L 96 - Rated current vs ambient temperature**



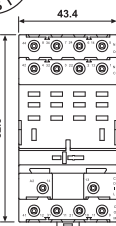
96.02



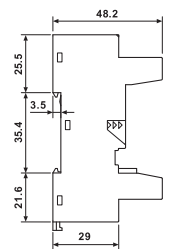
96.02



96.04



96.04



Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount	96.02 Blue	96.02.0 Black	96.04 Blue	96.04.0 Black
For relay type	56.32		56.34	
<b>Accessories</b>				
Metal retaining clip (supplied with socket - packaging code SMA)	094.71		096.71	
Plastic retaining and release clip (supplied with socket - packaging code SPA)	094.91.3	094.91.30	—	—
6-way jumper link	094.06	094.06.0	—	—
Identification tag	095.00.4		090.00.2	
Modules (see table below)			99.02	
Timer modules (see table below)	86.30		86.00, 86.30	
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm	060.72		—	
<b>Technical data</b>				
Rated values	12 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -40...+70 (see diagram L96)			
⊕ Screw torque	Nm	0.8		
Wire strip length	mm	8		
Max. wire size for 94.02/04 sockets		solid wire	stranded wire	
	mm <sup>2</sup>	1x6 / 2x2.5	1x4 / 2x2.5	
	AWG	1x10 / 2x14	1x12 / 2x14	

**094.06**



**86.00**



**86.30**



**86.30**



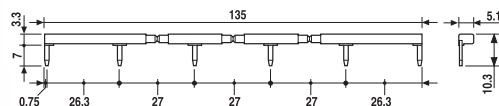
**99.02**

Approvals  
(according to type):



DC Modules with non-standard polarity (+A2) on request.

6-way jumper link for 96.02 socket	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	



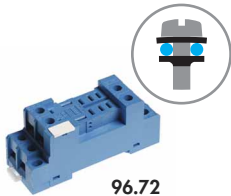
**86 series timer modules**

Multi-voltage: (12...240)V AC/DC;	
Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s... 100 h)	86.00.0.240.0000
(12...24)V AC/DC; Bi-function: AI, DI; (0.05 s... 100 h)	86.30.0.024.0000
(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.120.0000
(230...240)V AC; Bi-function: AI, DI; (0.05 s... 100 h)	86.30.8.240.0000

Approvals (according to type): **CE EAC PG cRU**

99.02 coil indication and EMC suppression modules for 96.02 and 96.04 sockets		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

A



96.72

Approvals  
(according to type):



96.74

Approvals  
(according to type):



99.01

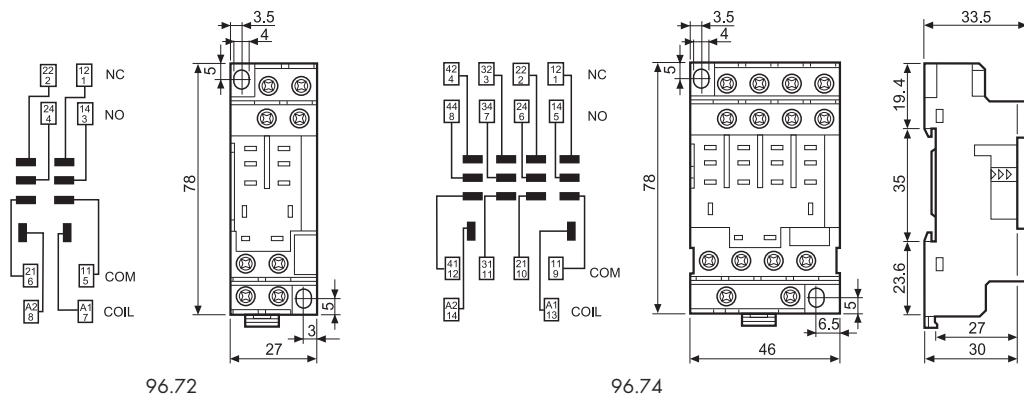
Approvals  
(according to type):



\* Modules in Black housing are available on request.

Green LED is standard. Red LED available on request.

Screw terminal (Plate clamp) socket	96.72	96.72.0	96.74	96.74.0
panel or 35 mm rail (EN 60715) mount	<b>Blue</b>	<b>Black</b>	<b>Blue</b>	<b>Black</b>
For relay type	56.32		56.34	
<b>Accessories</b>				
Metal retaining clip (supplied with socket - packaging code SMA)	094.71		094.71	
Modules (see table below)			99.01	
<b>Technical data</b>				
Rated values	12 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -40...+70			
⊕ Screw torque	Nm 0.8			
Wire strip length	mm 10			
Max. wire size for 96.72 and 96.74 sockets	solid wire		stranded wire	
	mm <sup>2</sup>	1x4 / 2x4	1x4 / 2x2.5	
	AWG	1x12 / 2x12	1x12 / 2x14	



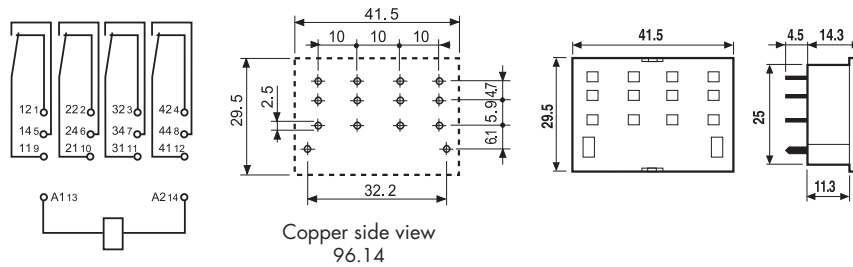
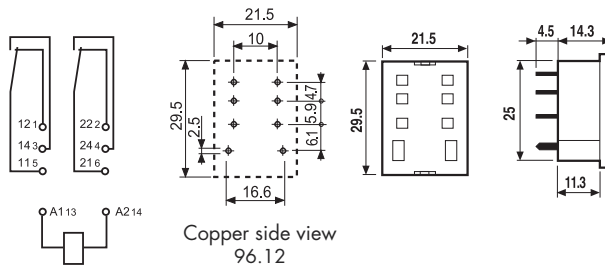
99.01 coil indication and EMC suppression modules for types 96.72 and 96.74 sockets		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.01.3.000.00
Diode (+A2, non-standard polarity)	(6...220)V DC	99.01.2.000.00
LED	(6...24)V DC/AC	99.01.0.024.59
LED	(28...60)V DC/AC	99.01.0.060.59
LED	(110...240)V DC/AC	99.01.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.01.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.01.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.01.9.220.99
LED + Diode (+A2, non-standard polarity)	(6...24)V DC	99.01.9.024.79
LED + Diode (+A2, non-standard polarity)	(28...60)V DC	99.01.9.060.79
LED + Diode (+A2, non-standard polarity)	(110...220)V DC	99.01.9.220.79
LED + Varistor	(6...24)V DC/AC	99.01.0.024.98
LED + Varistor	(28...60)V DC/AC	99.01.0.060.98
LED + Varistor	(110...240)V DC/AC	99.01.0.230.98
RC circuit	(6...24)V DC/AC	99.01.0.024.09
RC circuit	(28...60)V DC/AC	99.01.0.060.09
RC circuit	(110...240)V DC/AC	99.01.0.230.09
Residual current by-pass	(110...240)V AC	99.01.8.230.07



Approvals  
(according to type):



PCB socket	96.12 (blue)	96.12.0 (black)	96.14 (blue)	96.14.0 (black)
For relay type	56.32		56.34	
<b>Accessories</b>				
Metal retaining clip (supplied with socket - packaging code SMA)				094.51
<b>Technical data</b>				
Rated values	15 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -40...+70			



### Packaging code

How to code and identify retaining clip and packaging options for sockets.

Example:



**A** Standard packaging

**SM** Metal retaining clip  
**SP** Plastic retaining clip



Without retaining clip



**Features**

**Printed circuit mount  
16 A Power relay**

- 2 & 3 Pole changeover contacts or NO ( $\geq 3$  mm contact gap)
- AC coils & DC coils
- Reinforced insulation between coil and contacts according to EN 60335-1, with 6 mm clearance & 8 mm creepage distance
- SELV coil-contact separator option
- Cadmium Free contact material options

**62.22 / 62.23**



- 2 & 3 pole changeover contact
- PCB mount

**62.22-0300 / 62.23-0300**

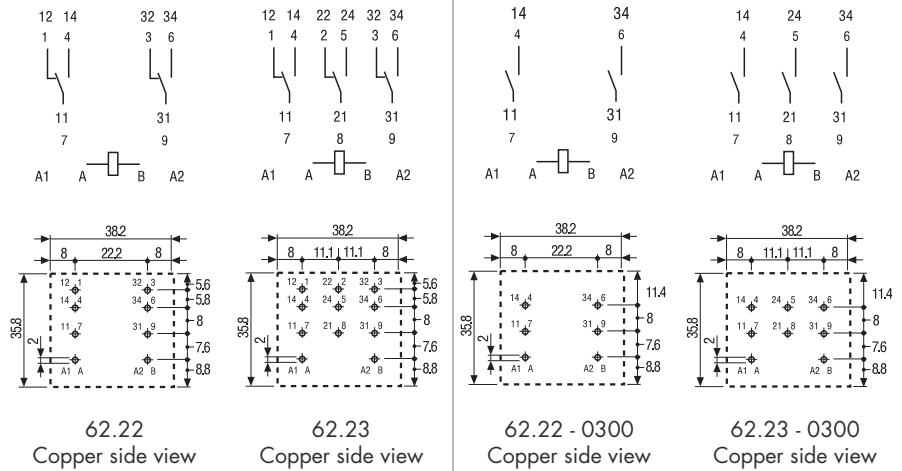


- 2 & 3 pole normally open contact ( $\geq 3$  mm contact gap)
- PCB mount

- \* Distance between contacts  $\geq 3$  mm (EN 60730-1).
- \*\* With the  $AgSnO_2$  material the maximum peak current is 120 A - 5 ms (NO contact).

FOR UL RATINGS SEE:  
"General technical information" page V

For outline drawing see page 10



**Contact specification**

Contact configuration	2 CO (DPDT)	3 CO (3PDT)	2 NO (DPST-NO), $\geq 3$ mm*	3 NO (3PST-NO), $\geq 3$ mm*
Rated current/Maximum peak current	A 16/30**		16/30**	
Rated voltage/Maximum switching voltage V AC	250/400		250/400	
Rated load AC1	VA 4,000		4,000	
Rated load AC15 (230 V AC)	VA 750		750	
Motor rating (230/400 V AC)	kW 0.8/-	0.8/1.5	0.8/-	0.8/1.5
Breaking capacity DC1: 30/110/220 V	A 16/0.6/0.4		16/1.1/0.7	
Minimum switching load	mW (V/mA) 1,000 (10/10)		1,000 (10/10)	
Standard contact material	AgCdO		AgCdO	

**Coil specification**

Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3		3/3
Operating range	AC	$(0.8...1.1)U_N$		$(0.85...1.1)U_N$
	DC	$(0.8...1.1)U_N$		$(0.85...1.1)U_N$
Holding voltage	AC/DC	$0.8 U_N/0.6 U_N$		$0.8 U_N/0.6 U_N$
Must drop-out voltage	AC/DC	$0.2 U_N/0.1 U_N$		$0.2 U_N/0.1 U_N$

**Technical data**

Mechanical life AC/DC	cycles	$10 \cdot 10^6/30 \cdot 10^6$		$10 \cdot 10^6/30 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$		$100 \cdot 10^3$
Operate/release time	ms	11/4		15/3
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	6		6
Dielectric strength between open contacts	V AC	1,500		2,500
Ambient temperature range	$^{\circ}C$	$-40...+70$		$-40...+50$
Environmental protection		RT I		RT I

**Approvals (according to type)**



**Features**

**Plug-in mount/Faston 187  
16 A Power relay**

- Plug-in (92 series sockets) or Faston 187 (4.8x0.5 mm) with optional mounting adaptors
- 2 & 3 Pole changeover contacts or NO ( $\geq 3$  mm contact gap)
- AC coils & DC coils
- UL Listing (certain relay/socket combinations)
- LED, mechanical indicator & test button options
- Reinforced insulation between coil and contacts according to EN 60335-1, with 6 mm clearance & 8 mm creepage distance
- SELV coil-contact separator option
- Cadmium Free contact material options
- Sockets and accessories
- European Patent

\* Distance between contacts  $\geq 3$  mm (EN 60730-1).  
 \*\* With the AgSnO<sub>2</sub> material the maximum peak current is 120 A - 5 ms (NO contact).

FOR UL RATINGS SEE:  
 "General technical information" page V

For outline drawing see page 10

**Contact specification**

Contact configuration	2 CO (DPDT)	3 CO (3PDT)	2 NO (DPST-NO), $\geq 3$ mm*	3 NO (3PST-NO), $\geq 3$ mm*
Rated current/Maximum peak current	A 16/30**		16/30**	
Rated voltage/Maximum switching voltage V AC	250/400		250/400	
Rated load AC1	VA 4,000		4,000	
Rated load AC15 (230 V AC)	VA 750		750	
Motor rating (230/400 V AC)	kW 0.8/—	0.8/1.5	0.8/—	0.8/1.5
Breaking capacity DC1: 30/110/220 V	A 16/0.6/0.4		16/1.1/0.7	
Minimum switching load	mW (V/mA) 1,000 (10/10)		1,000 (10/10)	
Standard contact material	AgCdO		AgCdO	

**Coil specification**

Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3		3/3
Operating range	AC	(0.8...1.1)U <sub>N</sub>		(0.85...1.1)U <sub>N</sub>
	DC	(0.8...1.1)U <sub>N</sub>		(0.85...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8 U <sub>N</sub> /0.6 U <sub>N</sub>		0.8 U <sub>N</sub> /0.6 U <sub>N</sub>
Must drop-out voltage	AC/DC	0.2 U <sub>N</sub> /0.1 U <sub>N</sub>		0.2 U <sub>N</sub> /0.1 U <sub>N</sub>

**Technical data**

Mechanical life AC/DC	cycles	10 · 10 <sup>6</sup> /30 · 10 <sup>6</sup>		10 · 10 <sup>6</sup> /30 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>		100 · 10 <sup>3</sup>
Operate/release time	ms	11/4		15/3
Insulation between coil and contacts (1.2/50 μs)	kV	6		6
Dielectric strength between open contacts	V AC	1,500		2,500
Ambient temperature range	°C	-40...+70		-40...+50
Environmental protection		RT I		RT I

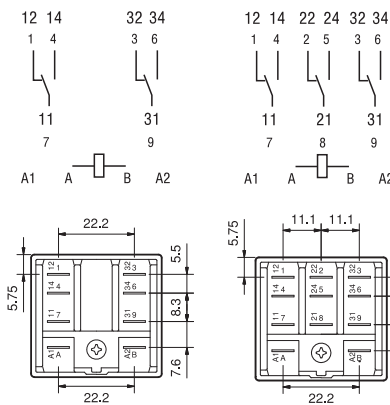
**Approvals** (according to type)



**62.32 / 62.33**



- 2 & 3 pole changeover contact
- Plug-in / Faston 187



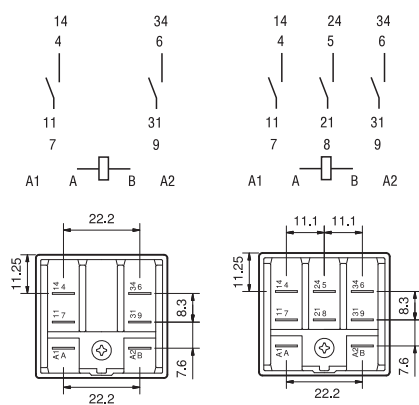
62.32

62.33

**62.32-0300 / 62.33-0300**



- 2 & 3 pole normally open contact ( $\geq 3$  mm contact gap)
- Plug-in / Faston 187



62.32-0300

62.33-0300

**Features**

**Flange mount/Faston 250  
16 A Power relay**

- Faston 250 (6.3x0.8 mm) termination Flange or optional mounting adaptors
- 2 & 3 Pole changeover contacts or NO ( $\geq 3$  mm contact gap)
- AC coils & DC coils
- LED, mechanical indicator & test button options
- Reinforced insulation between coil and contacts according to EN 60335-1, with 6 mm clearance & 8 mm creepage distance
- SELV coil-contact separator option
- Cadmium Free contact material options
- European Patent

\* Distance between contacts  $\geq 3$  mm (EN 60730-1).  
 \*\* With the  $AgSnO_2$  material the maximum peak current is 120 A - 5 ms (NO contact).

FOR UL RATINGS SEE:  
 "General technical information" page V

For outline drawing see page 10

**62.82 / 62.83**

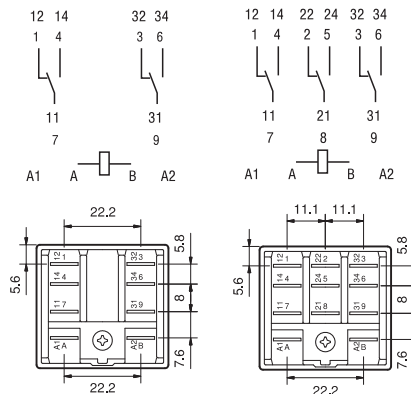


- 2 & 3 pole changeover contact
- Flange mount / Faston 250

**62.82-0300 / 62.83-0300**

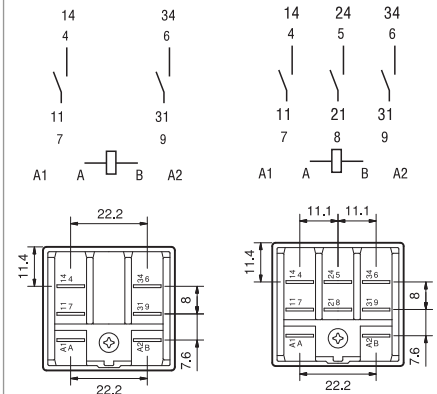


- 2 & 3 pole normally open contact ( $\geq 3$  mm contact gap)
- Flange mount / Faston 250



62.82

62.83



62.82-0300

62.83-0300

**Contact specification**

Contact configuration	2 CO (DPDT)	3 CO (3PDT)	2 NO (DPST-NO), $\geq 3$ mm*	3 NO (3PST-NO), $\geq 3$ mm*
Rated current/Maximum peak current	A 16/30**		16/30**	
Rated voltage/Maximum switching voltage V AC	250/400		250/400	
Rated load AC1	VA 4,000		4,000	
Rated load AC15 (230 V AC)	VA 750		750	
Motor rating (230/400 V AC)	kW 0.8/-	0.8/1.5	0.8/-	0.8/1.5
Breaking capacity DC1: 30/110/220 V	A 16/0.6/0.4		16/1.1/0.7	
Minimum switching load	mW (V/mA) 1,000 (10/10)		1,000 (10/10)	
Standard contact material	AgCdO		AgCdO	

**Coil specification**

Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3		3/3
Operating range	AC	$(0.8...1.1)U_N$		$(0.85...1.1)U_N$
	DC	$(0.8...1.1)U_N$		$(0.85...1.1)U_N$
Holding voltage	AC/DC	0.8 $U_N$ /0.6 $U_N$		0.8 $U_N$ /0.6 $U_N$
Must drop-out voltage	AC/DC	0.2 $U_N$ /0.1 $U_N$		0.2 $U_N$ /0.1 $U_N$

**Technical data**

Mechanical life AC/DC	cycles	10 · 10 <sup>6</sup> /30 · 10 <sup>6</sup>		10 · 10 <sup>6</sup> /30 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>		100 · 10 <sup>3</sup>
Operate/release time	ms	11/4		15/3
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	6		6
Dielectric strength between open contacts	V AC	1,500		2,500
Ambient temperature range	°C	-40...+70		-40...+50
Environmental protection		RT I		RT I

**Approvals (according to type)**



## Features

A

### Plug-in mount/Faston 187 Magnetic blow power relay

- Plug-in (92 series sockets) or Faston 187 (4.8x0.5 mm) with optional mounting adaptors
- 1 & 2 Pole NO contacts
- High DC load (resistive and inductive) switching capability
- DC coils
- Reinforced insulation between coil and contacts according to EN 60335-1, with 6 mm clearance & 8 mm creepage distance
- Cadmium Free contact material
- Sockets and accessories

**NEW** 62.31-4800

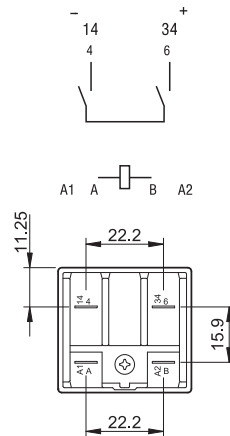


- 1 pole normally open contact (double break,  $\geq 4.2$  mm contact gap)
- Plug-in / Faston 187

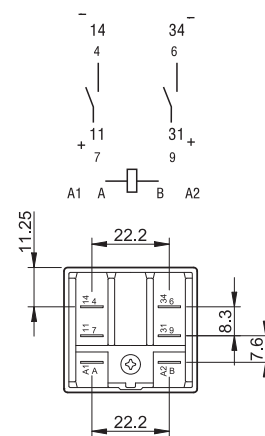
**NEW** 62.32-4800



- 2 pole normally open contact ( $\geq 2.1$  mm contact gap)
- Plug-in / Faston 187



62.31-4800



62.32-4800

\* Maximum peak current 120 A - 5 ms.

For outline drawing see page 10

### Contact specification

Contact configuration	1 NO (SPST-NO) double break, $\geq 4.2$ mm	2 NO (DPST-NO), $\geq 2.1$ mm
Rated current/Maximum peak current	A 16/30*	16/30*
Rated voltage/Maximum switching voltage V AC	250/400	250/400
Rated load AC1	VA 4,000	4,000
Breaking capacity DC1: 30/125/220 V	A 16/16/12	16/12/6
Breaking capacity DC inductive (L/R = 40 ms): 30/125/220 V	A 16/5/3	10/2/1.2
Minimum switching load	mW (V/mA) 1,000 (10/10)	1,000 (10/10)
Standard contact material	AgSnO <sub>2</sub>	AgSnO <sub>2</sub>

### Coil specification

Nominal voltage (U <sub>N</sub> )	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	
Rated power DC	W	1.3	1.3
Operating range	DC	(0.85...1.1)U <sub>N</sub>	(0.85...1.1)U <sub>N</sub>
Holding voltage	DC	0.6 U <sub>N</sub>	0.6 U <sub>N</sub>
Must drop-out voltage	DC	0.1 U <sub>N</sub>	0.1 U <sub>N</sub>

### Technical data

Mechanical life DC	cycles	10 · 10 <sup>6</sup>	10 · 10 <sup>6</sup>
Electrical life at rated load DC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time	ms	16/5	16/5
Insulation between coil and contacts (1.2/50 μs)	kV	6	6
Dielectric strength between open contacts	V AC	3,000	2,000
Ambient temperature range	°C	-40...+70	-40...+70
Environmental protection		RT I	RT I

### Approvals (according to type)





Ordering information

Example: 62 series power relay + Faston 250 (6.3x0.8 mm), rear flange mount, 2 NO (DPST-NO), 12 V DC coil.



- Series** — 6 2 . 8 2 . 9 .
- Type** — 0 1 2 .
  - 2 = PCB
  - 3 = Plug-in
  - 8 = Faston 250 (6.3x0.8 mm) with rear flange mount
- No. of poles** — 0 1 2 .
  - 1 = 1 pole (double break)
  - 2 = 2 pole
  - 3 = 3 pole
- Coil version** — 0 1 2 .
  - 8 = AC (50/60 Hz)
  - 9 = DC
- Coil voltage** — 0 1 2 .
  - See coil specifications

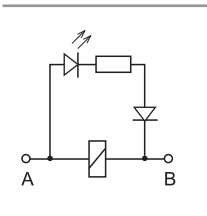
- A: Contact material**
  - 0 = Standard AgCdO
  - 4 = AgSnO<sub>2</sub> (standard for versions 4800)
- B: Contact circuit**
  - 0 = CO (nPDT)
  - 3 = NO (nPST), ≥ 3 mm contact gap
  - 5 = CO (nPDT) + additional physical separator between coil and contacts (for SELV applications)
  - 6 = NO (nPST), ≥ 3 mm contact gap + additional physical separator between coil and contacts (for SELV applications)
  - 8 = NO (1 pole double break or 2 pole) with magnetic blow

- D: Special versions**
    - 0 = Standard
    - 6 = Rear flange mount
    - 9 = Type 62.82/83 without rear flange mount
  - C: Options**
    - 0 = None
    - 2 = Mechanical indicator
    - 3 = LED (AC)
    - 4 = Lockable test button + mechanical indicator
    - 5\* = Lockable test button + LED (AC)
    - 54\* = Lockable test button + LED (AC) + mechanical indicator
    - 6\* = LED + diode (DC, polarity positive to pin A/A1)
    - 7\* = Lockable test button + LED + diode (DC, polarity positive to pin A/A1)
    - 74\* = Lockable test button + LED + diode (DC, polarity positive to pin A/A1) + mechanical indicator
- \* Options not available for 220 V DC and 400 V AC versions.

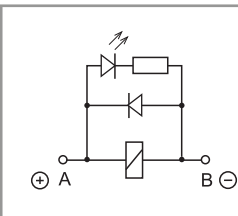
Selecting features and options: only combinations in the same row are possible. Preferred selections for best availability are shown in bold.

Type	Coil version	A	B	C	D
62.22/23	AC-DC	<b>0</b> - 4	<b>0</b> - 3 - 5 - 6	<b>0</b>	<b>0</b>
62.32/33	AC-DC	0 - 4	0 - 3 - 5 - 6	0	0 - 6
	AC-DC	<b>0</b> - 4	<b>0</b> - 5	<b>2</b> - <b>4</b>	<b>0</b> - 6
	AC	<b>0</b> - 4	<b>0</b>	<b>2</b> - 3 - <b>4</b> - 5	<b>0</b> - 6
	AC	0 - 4	0 - 3	3	0 - 6
	AC	0 - 4	0	54	/
	DC	<b>0</b> - 4	<b>0</b>	<b>4</b> - 6 - 7	<b>0</b> - 6
	DC	0 - 4	0 - 3	6	0 - 6
	DC	0 - 4	0	74	/
62.31/32	DC	<b>4</b>	<b>8</b>	<b>0</b>	<b>0</b>
62.82/83	AC-DC	<b>0</b> - 4	<b>0</b> - 3 - 5 - 6	<b>0</b>	<b>0</b> - 9
	AC-DC	0 - 4	0 - 5	2 - 4	0
	AC	0 - 4	0	2 - 3 - 4 - 5	0
	AC	0 - 4	0 - 3	3	0
	DC	0 - 4	0	4 - 6 - 7	0
	DC	0 - 4	0 - 3	6	0

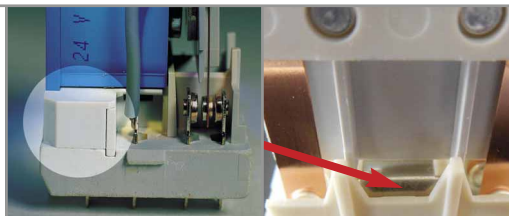
Descriptions: Options and Special versions



C: Option 3, 5, 54  
LED (AC)

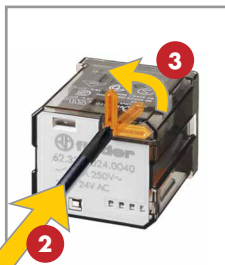


C: Option 6, 7, 74  
LED + diode (DC, polarity positive to pin A/A1)



B: Contact circuit 5, 6  
Additional physical separator between coil and contacts (for SELV applications)

B: Contact circuit 8  
Magnetic blow



Lockable test button and mechanical flag indicator (0040, 0050, 0054, 0070, 0074)

The dual-purpose Finder test button can be used in two ways:

Case 1) The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

Case 2) The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

In both cases ensure that the test button actuation is swift and decisive.



## Technical data

A

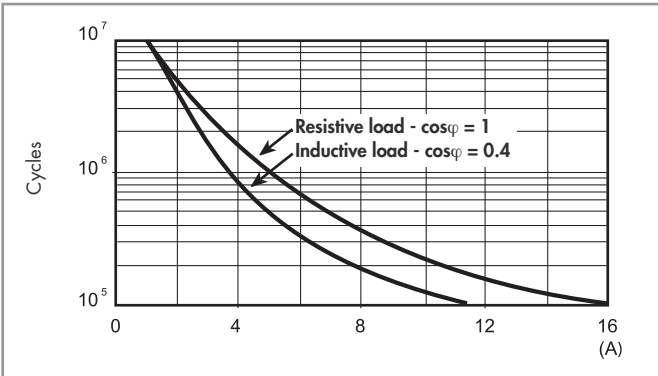
Insulation according to EN 61810-1		2 CO - 3 CO	2 NO - 3 NO	1 NO*	2 NO*			
Nominal voltage of supply system	V AC	230/400	230/400	230/400	230/400			
Rated insulation voltage	V AC	400	400	400	400			
Pollution degree		3	3	3	3			
Insulation between coil and contact set								
Type of insulation		Reinforced	Reinforced	Reinforced	Reinforced			
Overvoltage category		III	III	III	III			
Rated impulse voltage	kV (1.2/50 µs)	6	6	6	6			
Dielectric strength	V AC	4,000	4,000	4,000	4,000			
Insulation between adjacent contacts								
Type of insulation		Basic	Basic	—	Basic			
Overvoltage category		III	III	—	III			
Rated impulse voltage	kV (1.2/50 µs)	4	4	—	4			
Dielectric strength	V AC	2,500	2,500	—	2,500			
Insulation between open contacts								
Type of disconnection		Micro-disconnection	Full-disconnection	Full-disconnection	Full-disconnection**			
Overvoltage category		—	III	III	II			
Rated impulse voltage	kV (1.2/50 µs)	—	4	4	2.5			
Dielectric strength	V AC/kV (1.2/50 µs)	1,500/2	2,500/4	3,000/4	2,000/2.5			
Conducted disturbance immunity								
Burst (5...50)ns, 5 kHz, on A1 - A2		EN 61000-4-4		level 4 (4 kV)				
Surge (1.2/50 µs) on A1 - A2 (differential mode)		EN 61000-4-5		level 4 (4 kV)				
Other data								
Bounce time: NO/NC	ms	1/5 (changeover)	3/— (normally open)	3/— (normally open)	3/— (normally open)			
Vibration resistance (10...150)Hz: NO/NC	g	20/8						
Shock resistance	g	15						
Power lost to the environment		2 pole (CO)	3 pole (CO)	2 pole (NO)	3 pole (NO)	1 pole (NO)*	2 pole (NO)*	
	without contact current	W	1.3	1.3	3	3	1.3	1.3
	with rated current	W	3.3	4.3	5	6	3	3.3
Recommended distance between relays mounted on PCB	mm	≥ 5				—		

\* Magnetic blow version

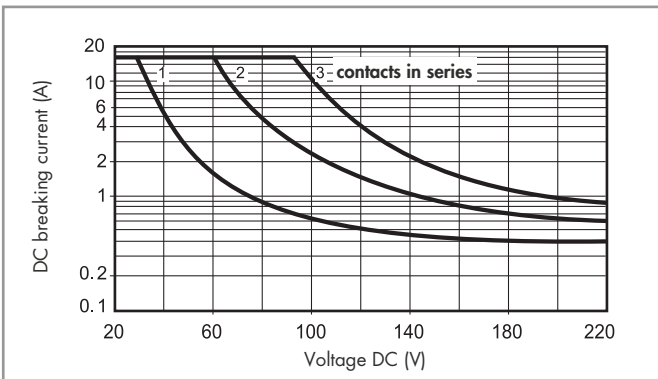
\*\* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

**Contact specification**

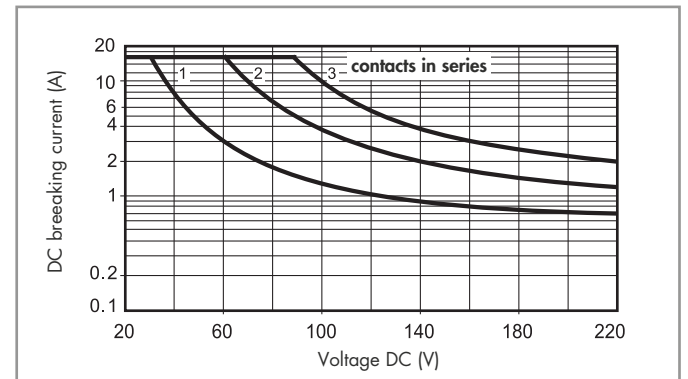
**F 62 - Electrical life (AC) v contact current**



**H 62 - Maximum DC1 breaking capacity**  
Changeover contacts

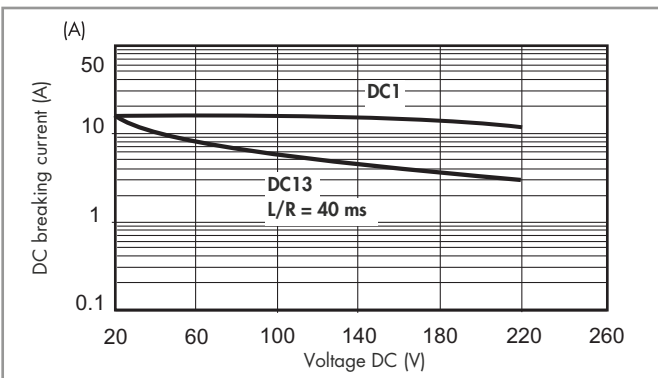


**H 62 - Maximum DC1 breaking capacity**  
Normally open contacts

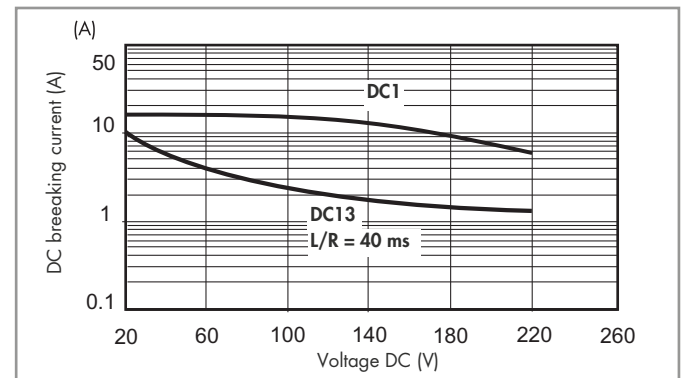


- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.  
Note: the release time of the load will be increased.

**H 62 - Maximum DC breaking capacity 62.31.9.xxx.4800**



**H 62 - Maximum DC breaking capacity 62.32.9.xxx.4800**



- When switching a resistive load (DC1), or a DC13 load with a diode in parallel to the load, having voltage and current values under the DC1 curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected. Note: the release time for the load will be increased.
- When switching a DC13 load without a diode in parallel to the load, the DC13 curve applies and an electrical life of  $\geq 80 \cdot 10^3$  can be expected.

## Coil specifications

## DC version data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	4.8	6.6	28	214
12	9.012	9.6	13.2	110	109
24	9.024	19.2	26.4	445	54
48	9.048	38.4	52.8	1,770	27
60	9.060	48	66	2,760	21.7
110	9.110	88	121	9,420	11.7
125	9.125	100	138	12,000	10.4
220	9.220	176	242	37,300	5.8

## AC version data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V		
6	8.006	4.8	6.6	4.6	367
12	8.012	9.6	13.2	19	183
24	8.024	19.2	26.4	74	90
48	8.048	38.4	52.8	290	47
60	8.060	48	66	450	37
110	8.110	88	121	1,600	20
120	8.120	96	132	1,940	18.6
230	8.230	184	253	7,250	10.5
240	8.240	192	264	8,500	9.2
400	8.400	320	440	19,800	6

DC (NO/nPST-NO) version data -  $\geq 3$  mm

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	5.1	6.6	12	500
12	9.012	10.2	13.2	48	250
24	9.024	20.4	26.4	192	125
48	9.048	40.8	52.8	770	63
60	9.060	51	66	1,200	50
110	9.110	93.5	121	4,200	26
125	9.125	106	138	5,200	24
220	9.220	187	242	17,600	12.5

AC (NO/nPST-NO) version data -  $\geq 3$  mm

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V		
6	8.006	5.1	6.6	4	540
12	8.012	10.2	13.2	14	275
24	8.024	20.4	26.4	62	130
48	8.048	40.8	52.8	220	70
60	8.060	51	66	348	55
110	8.110	93.5	121	1,200	30
120	8.120	106	137	1,350	24
230	8.230	196	253	5,000	14
240	8.240	204	264	6,300	12.5
400	8.400	340	440	14,700	7.8

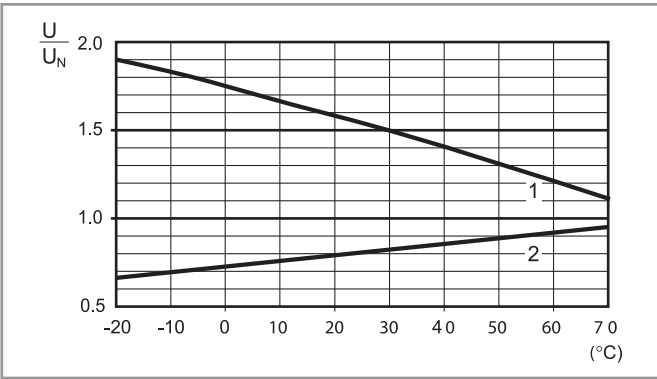
DC (NO/nPST-NO) magnetic blow version -  $> 2.1$  mm or  $> 4.2$  mm

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	5.1	6.6	28	214
12	9.012	10.2	13.2	110	109
24	9.024	20.4	26.4	445	54
48	9.048	40.8	52.8	1,770	27
60	9.060	51	66	2,760	21.7
110	9.110	93.5	121	9,420	11.7
125	9.125	106	138	12,000	10.4
220	9.220	154*	242	37,300	5.8

\* Special version with  $U_{min} = 70\% U_N$

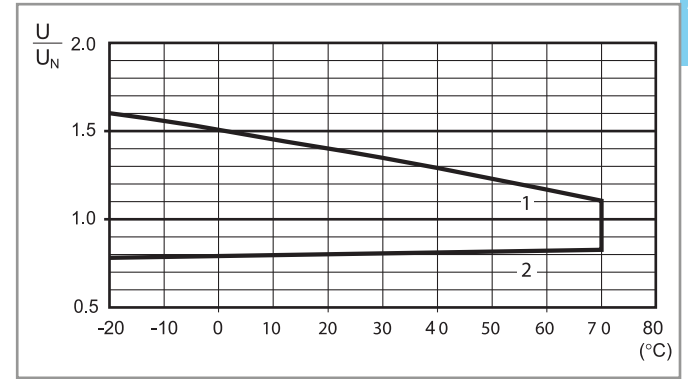
**Coil specifications**

**R 62 - DC coil operating range v ambient temperature**  
Changeover contacts



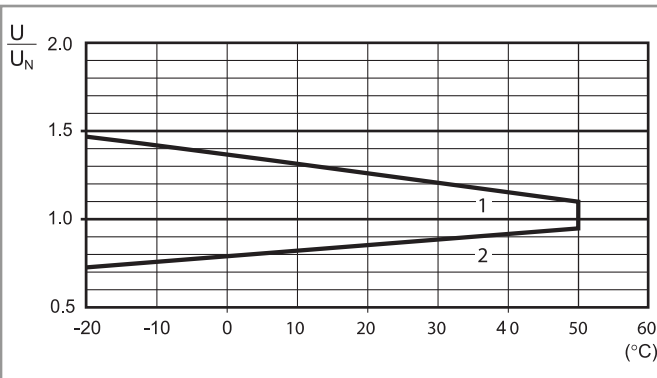
- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

**R 62 - AC coil operating range v ambient temperature**  
Changeover contacts



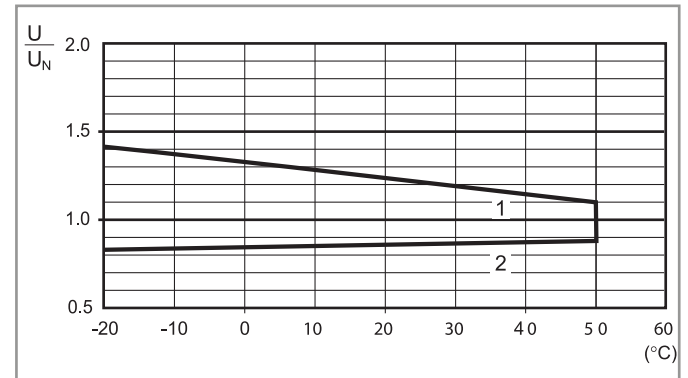
- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

**R 62 - DC coil operating range v ambient temperature**  
Normally open contacts



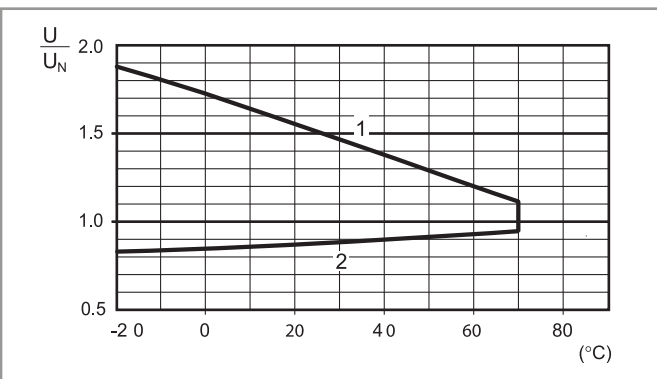
- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

**R 62 - AC coil operating range v ambient temperature**  
Normally open contacts



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

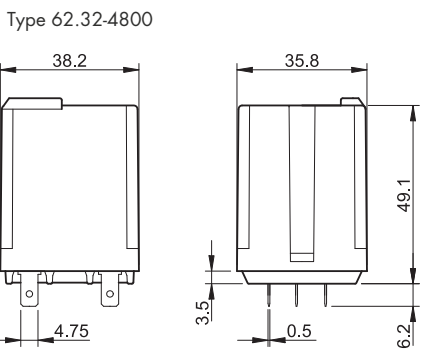
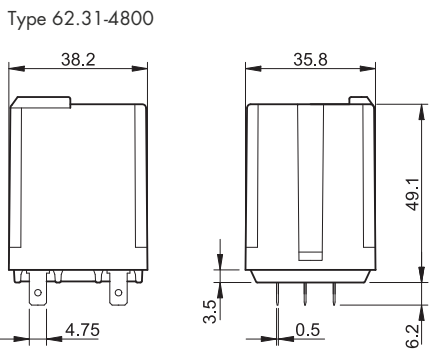
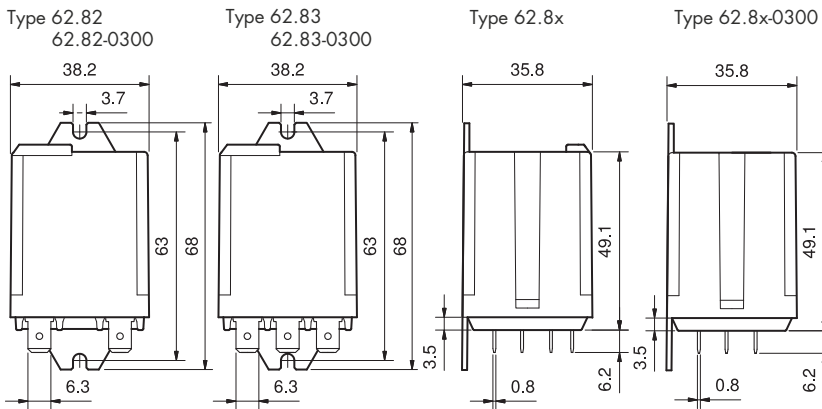
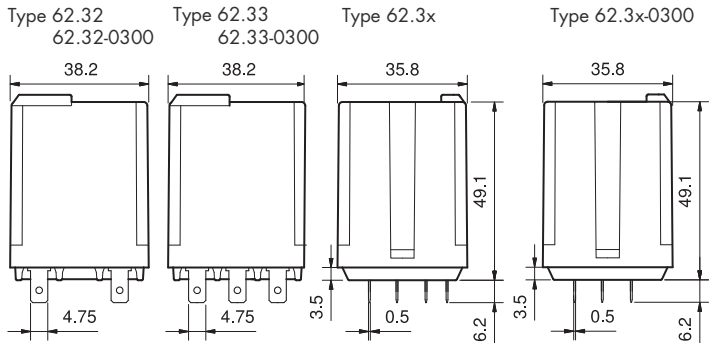
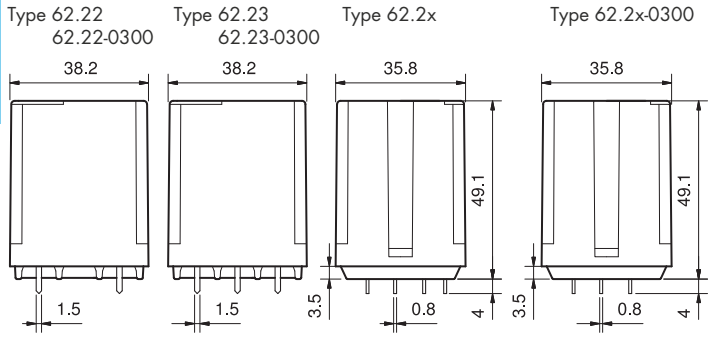
**R 62 - DC coil operating range v ambient temperature**  
Normally open contacts - magnetic blow version



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawings

A



**Accessories**



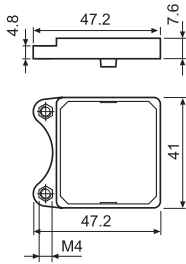
**062.10**



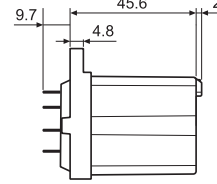
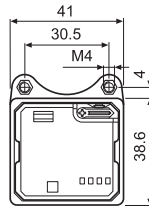
**062.10 with relay**

**Mounting adaptor** for types 62.3x and 62.8x.xxxx.xxx9 (M4)

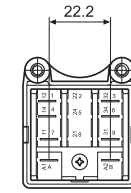
**062.10**



062.10



062.10 with relay



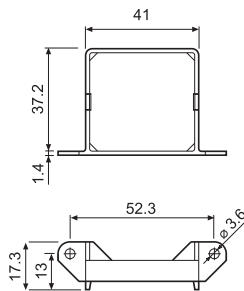
**062.60**



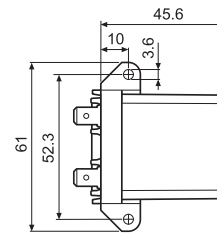
**062.60 with relay**

**Flange mounting adaptor** for types 62.3x and 62.8x.xxxx.xxx9

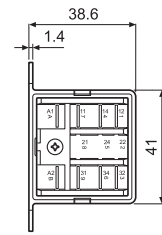
**062.60**



062.60



062.60 with relay



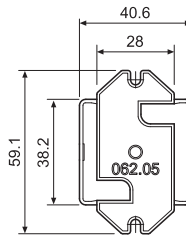
**062.05**



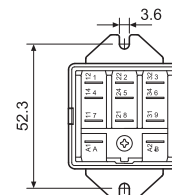
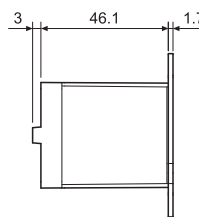
**062.05 with relay**

**Top flange mount** for types 62.3x and 62.8x.xxxx.xxx9

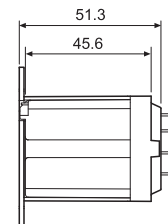
**062.05**



062.05



062.05 with relay



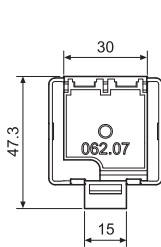
**062.07**



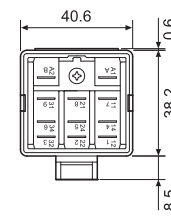
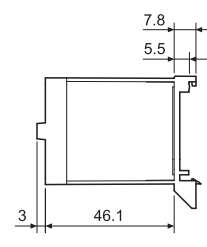
**062.07 with relay**

**Top 35 mm rail (EN 60715) mount** for types 62.3x and 62.8x.xxxx.xxx9

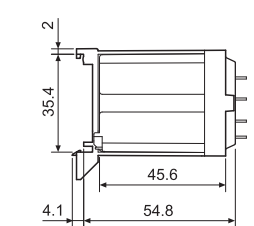
**062.07**



062.07



062.07 with relay



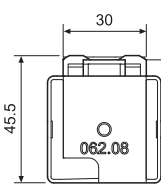
**062.08**



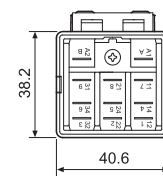
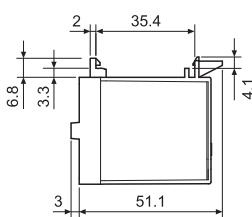
**062.08 with relay**

**Rear 35 mm rail (EN 60715) mount** for types 62.3x and 62.8x.xxxx.xxx9

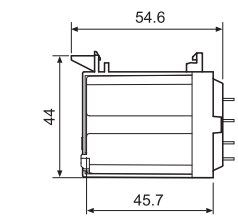
**062.08**



062.08



062.08 with relay



**060.72**

**Sheet of marker tags** for 62 series relays, plastic, 72 tags, 6x12 mm

**060.72**

A



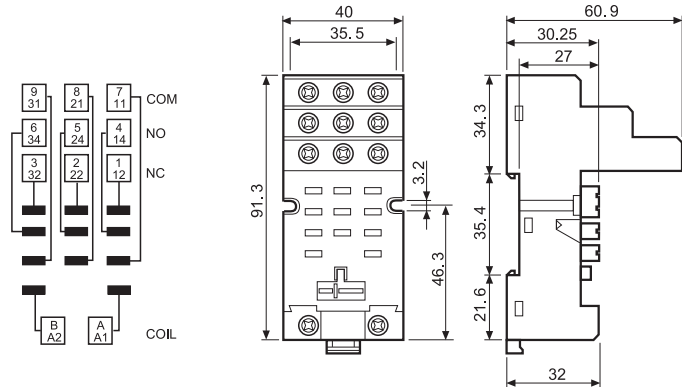
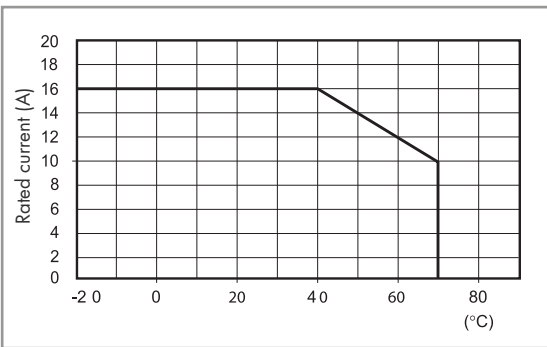
92.03

Approvals  
(according to type):



<b>Screw terminal (Box clamp) socket</b> panel or 35 mm rail (EN 60715) mount For relay type	<b>92.03</b> <b>Blue</b> 62.31, 62.32, 62.33	<b>92.03.0</b> <b>Black</b>
<b>Accessories</b>		
Metal retaining clip (supplied with socket - packaging code SMA)		092.71
Identification tag		092.00.2
Modules (see table below)		99.02
Timer modules (see table below)		86.00, 86.30
<b>Technical data</b>		
Rated values	16 A - 250 V	
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -40...+70 (see diagram L92)	
Screw torque	Nm	0.8
Wire strip length	mm	10
Max. wire size for 92.03 socket	solid wire	stranded wire
	mm <sup>2</sup>	1x10 / 2x4
	AWG	1x8 / 2x12

L 92 - Rated current vs ambient temperature



86.00



86.30

<b>86 series timer modules</b>		
Multi-voltage: (12...240)V AC/DC;		
Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05s...100h)		86.00.0.240.0000
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)		86.30.0.024.0000
(110...125)V AC; Bi-function: AI, DI; (0.05s...100h)		86.30.8.120.0000
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)		86.30.8.240.0000

Approvals  
(according to type):



99.02

Approvals  
(according to type):



<b>99.02 coil indication and EMC suppression modules for 92.03 socket</b>		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

DC Modules with  
non-standard polarity  
(+A2) on request.

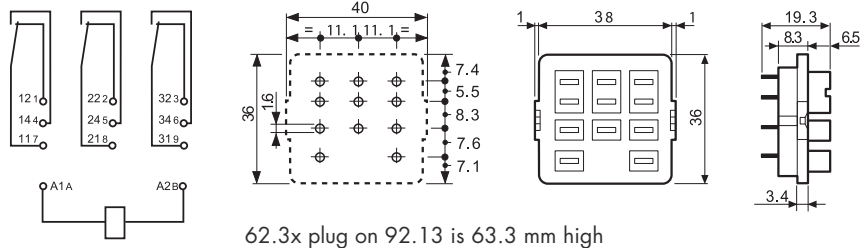




**92.13**  
Approvals  
(according to type):



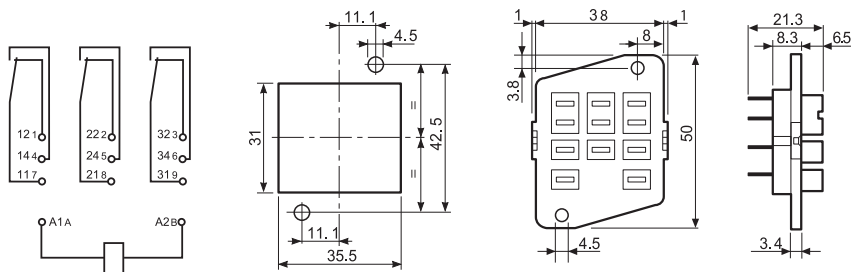
<b>PCB socket</b>	<b>92.13 (blue)</b>	<b>92.13.0 (black)</b>
For relay type	62.31, 62.32, 62.33	
<b>Accessories</b>		
Metal retaining clip (supplied with socket - packaging code SMA)	092.54	
<b>Technical data</b>		
Rated values	10 A - 250 V	
Dielectric strength	2.5 kV AC	
Ambient temperature	°C -40...+70	



**92.33**  
Approvals  
(according to type):



<b>Panel mount solder socket</b> mounted with M3 screw	<b>92.33 (blue)</b>
For relay type	62.31, 62.32, 62.33
<b>Accessories</b>	
Metal retaining clip (supplied with socket - packaging code SMA)	092.54
<b>Technical data</b>	
Rated values	10 A - 250 V
Dielectric strength	2.5 kV AC
Ambient temperature	°C -40...+70



### Packaging code

How to code and identify retaining clip and packaging options for sockets.

Example:



**A** Standard packaging

**SM** Metal retaining clip



Without retaining clip

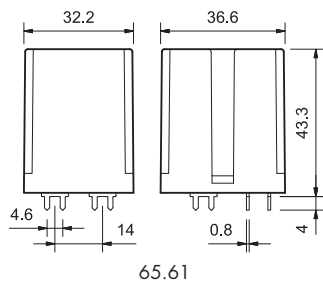


## Features

20 A Power relays  
1 NO + 1 NC (SPST-NO + SPST-NC)

- 65.31** Flange mount  
Faston 250 connections
- 65.61** PCB mount

- AC coils & DC coils
- Cadmium Free option available



65.61

\*With the  $AgSnO_2$  material the maximum peak current is 120 A - 5 ms on NO contact.

FOR UL RATINGS SEE:  
"General technical information" page V

65.31

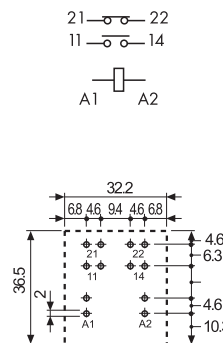
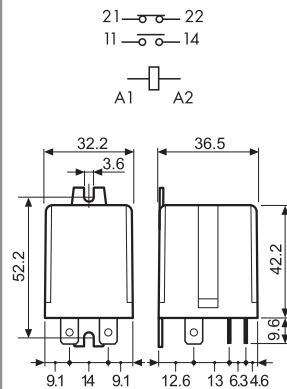


- 20 A rated contacts
- Flange mount/Faston 250 (6.3x0.8 mm) connection

65.61



- 20 A rated contacts
- PCB mount - bifurcated terminals



Copper side view

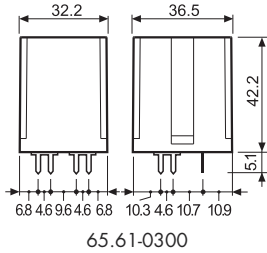
Contact specification		65.31	65.61
Contact configuration		1NO+1NC (SPST-NO+SPST-NC)	1NO+1NC (SPST-NO+SPST-NC)
Rated current/Maximum peak current	A	20/40*	20/40*
Rated voltage/Maximum switching voltage V AC		250/400	250/400
Rated load AC1	VA	5,000	5,000
Rated load AC15 (230 V AC)	VA	1,000	1,000
Single phase motor rating (230 V AC)	kW	1.1	1.1
Breaking capacity DC1: 30/110/220 V	A	20/0.8/0.5	20/0.8/0.5
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specification		65.31	65.61
Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	DC	$(0.85...1.1)U_N$	$(0.85...1.1)U_N$
Holding voltage	AC/DC	$0.8 U_N/0.6 U_N$	$0.8 U_N/0.6 U_N$
Must drop-out voltage	AC/DC	$0.2 U_N/0.1 U_N$	$0.2 U_N/0.1 U_N$
Technical data		65.31	65.61
Mechanical life AC/DC	cycles	$10 \cdot 10^6/30 \cdot 10^6$	$10 \cdot 10^6/30 \cdot 10^6$
Electrical life at rated load AC1	cycles	$80 \cdot 10^3$	$80 \cdot 10^3$
Operate/release time	ms	10/12	10/12
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	4	4
Dielectric strength between open contacts	V AC	1,500	1,500
Ambient temperature range	$^{\circ}C$	-40...+75	-40...+75
Environmental protection		RT I	RT I
<b>Approvals</b> (according to type)			

**Features**

30 A Power relays  
1 NO (SPST-NO)

- 65.31-0300 Flange mount  
Faston 250 connections
- 65.61-0300 PCB mount

- $\geq 3$  mm contact gap
- AC coils & DC coils
- Cadmium Free option available



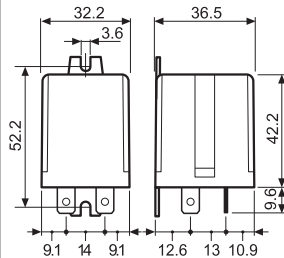
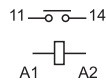
- \* Distance between contacts  $\geq 3$  mm (EN 60335-1).
- \*\* With the  $AgSnO_2$  material the maximum peak current is 120 A - 5 ms on NO contact.

FOR UL RATINGS SEE:  
"General technical information" page V

**65.31-0300**



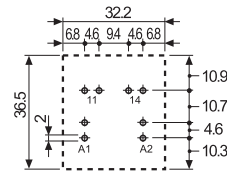
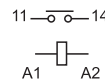
- 30 A rated contacts
- Flange mount/Faston 250 (6.3x0.8 mm) connection



**65.61-0300**



- 30 A rated contacts
- PCB mount - bifurcated terminals



Copper side view

Contact specification			
Contact configuration		1 NO (SPST-NO), $\geq 3$ mm*	1 NO (SPST-NO), $\geq 3$ mm*
Rated current/Maximum peak current	A	30/50**	30/50**
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	7,500	7,500
Rated load AC15 (230 V AC)	VA	1,250	1,250
Single phase motor rating (230 V AC)	kW	1.5	1.5
Breaking capacity DC1: 30/110/220 V	A	30/1.1/0.7	30/1.1/0.7
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specification			
Nominal voltage ( $U_N$ )	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
	DC	$(0.85 \dots 1.1) U_N$	$(0.85 \dots 1.1) U_N$
Holding voltage	AC/DC	$0.8 U_N / 0.6 U_N$	$0.8 U_N / 0.6 U_N$
Must drop-out voltage	AC/DC	$0.2 U_N / 0.1 U_N$	$0.2 U_N / 0.1 U_N$
Technical data			
Mechanical life AC/DC	cycles	$10 \cdot 10^6 / 30 \cdot 10^6$	$10 \cdot 10^6 / 30 \cdot 10^6$
Electrical life at rated load AC1	cycles	$50 \cdot 10^3$	$50 \cdot 10^3$
Operate/release time	ms	15/4	15/4
Insulation between coil and contacts (1.2/50 $\mu$ s)	kV	4	4
Dielectric strength between open contacts	V AC	2,500	2,500
Ambient temperature range	$^{\circ}$ C	-40...+75	-40...+75
Environmental protection		RT I	RT I
Approvals (according to type)			

## Ordering information

Example: 65 series power relay, PCB with bifurcated terminals, 1 NO + 1 NC (SPST-NO + SPST-NC) contact, 12 V DC coil.

6

5

.

6

1

.

9

.

0

1

2

.

0

0

0

0

**Series** —————

**Type** —————

3 = Faston 250 (6.3x0.8 mm) with rear flange mount

6 = PCB with bifurcated terminals

**No. of poles** —————

1 = 1 NO + 1 NC (SPST-NO + SPST-NC)

**Coil version** —————

8 = AC (50/60 Hz)

9 = DC

**Coil voltage** —————

See coil specifications

**A: Contact material**

0 = Standard AgCdO

4 = AgSnO<sub>2</sub>

**B: Contact circuit**

0 = 1 NO + 1 NC (SPST-NO + SPST-NC)

3 = NO (≥ 3 mm contact gap)

**C: Options**

0 = None

**D: Special versions**

0 = Standard

9 = Type 65.31 without rear flange mount

**Selecting features and options: only combinations in the same row are possible.**  
Preferred selections for best availability are shown in **bold**.

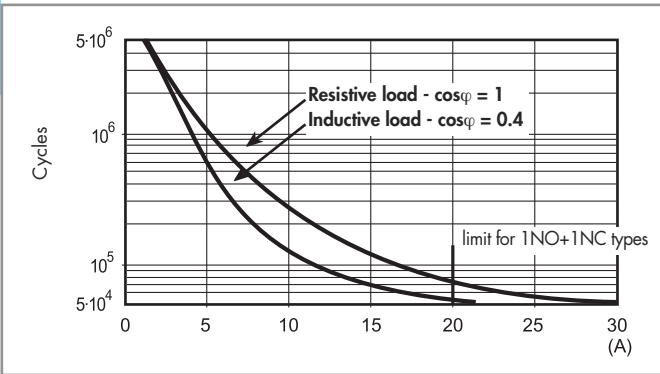
Type	Coil version	A	B	C	D
65.31	AC-DC	<b>0</b> - 4	<b>0</b> - 3	<b>0</b>	<b>0</b> - 9
65.61	AC-DC	<b>0</b> - 4	<b>0</b> - 3	<b>0</b>	<b>0</b>

## Technical data

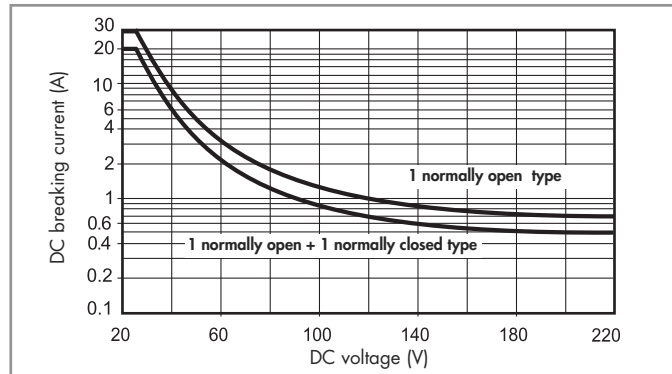
Insulation according to EN 61810-1		1 NO + 1 NC		1 NO	
Nominal voltage supply system	V AC	230/400		230/400	
Rated insulation voltage	V AC	250	400	250	400
Pollution degree		3	2	3	2
<b>Insulation between coil and contact set</b>					
Type of insulation		Basic		Basic	
Overtoltage category		III		III	
Rated impulse voltage	kV (1.2/50 μs)	4		4	
Dielectric strength	V AC	2,500		2,500	
<b>Insulation between open contacts</b>					
Type of disconnection		Micro-disconnection		Full-disconnection	
Overtoltage category		—		III	
Rated impulse voltage	kV (1.2/50 μs)	—		4	
Dielectric strength	V AC/kV (1.2/50 μs)	1,500/2		2,500/4	
<b>Conducted disturbance immunity</b>					
Burst (5...50)ns, 5 kHz, on A1 - A2		EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 μs) on A1 - A2 (differential mode)		EN 61000-4-5		level 4 (4 kV)	
<b>Other data</b>					
Bounce time: NO/NC	ms	5/6 (1 normally open + 1 normally closed)		7/— (normally open)	
Vibration resistance (10...150)Hz: NO/NC	g	20/13			
Shock resistance	g	20			
Power lost to the environment	without contact current	W	1.3		
	with rated current	W	2.1 (65.31, 65.61)		3.1 (65.31/.61.0300)
Recommended distance between relays mounted on PCB	mm	≥ 5			

Contact specification

F 65 - Electrical life (AC) v contact current



H 65 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 80 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.  
Note: the release time for the load will be increased.

Coil specifications

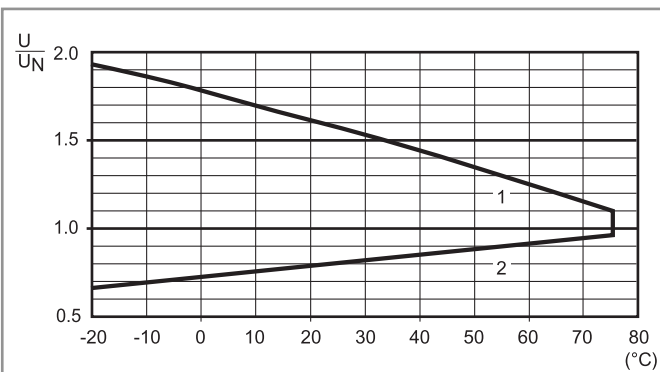
DC coil data

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
6	9.006	5.1	6.6	28	214
12	9.012	10.2	13.2	110	109
24	9.024	20.4	26.4	445	54
48	9.048	40.8	52.8	1,770	27.1
60	9.060	51	66	2,760	21.7
110	9.110	93.5	121	9,420	11.7
125	9.125	106	138	12,000	10.4
220	9.220	187	242	37,300	5.8

AC coil data

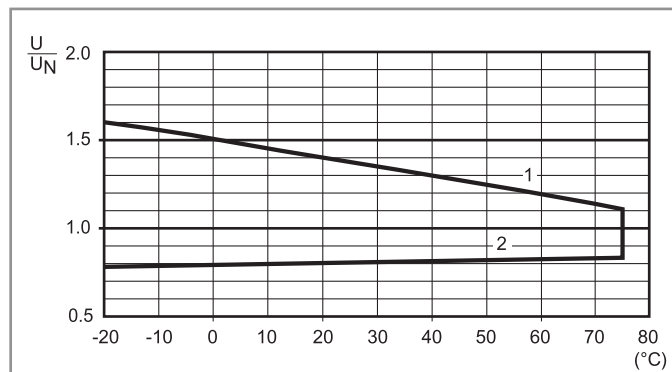
Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V		
6	8.006	4.8	6.6	4.6	367
12	8.012	9.6	13.2	19	183
24	8.024	19.2	26.4	74	90
48	8.048	38.4	52.8	290	47
60	8.060	48	66	450	37
110	8.110	88	121	1,600	20
120	8.120	96	132	1,940	18.6
230	8.230	184	253	7,250	10.5
240	8.240	192	264	8,500	9.2
400	8.400	320	440	19,800	6

R 65 - DC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

R 65 - AC coil operating range v ambient temperature



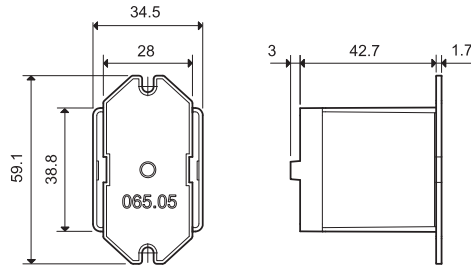
- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

**Accessories**

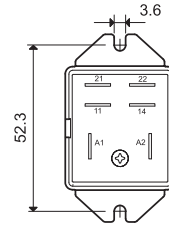


**Top flange mount for types 65.31 .xxxx.xxx9**

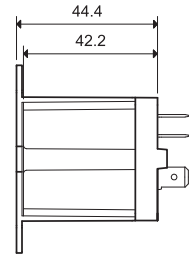
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065.05

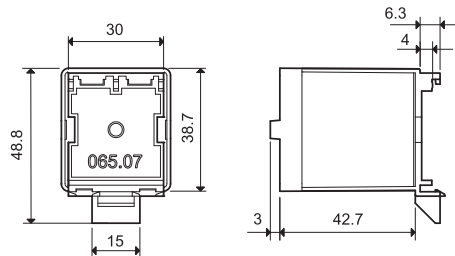


065.05 with relay

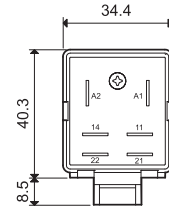


**Top 35 mm rail (EN 60715) mount for types 65.31 .xxxx.xxx9**

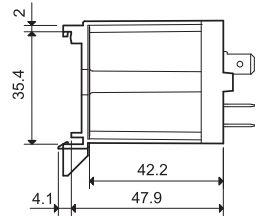
065.07



065.07

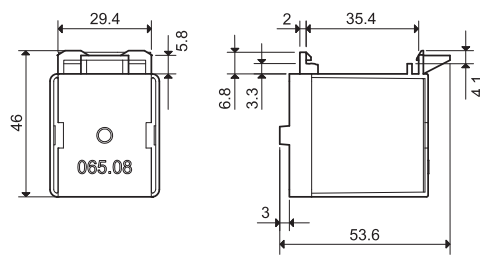


065.07 with relay

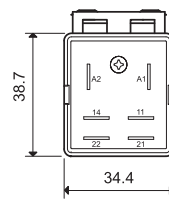


**Rear 35 mm rail (EN 60715) mount for types 65.31 .xxxx.xxx9**

065.08



065.08



065.08 with relay

